United States
Department of
Agriculture

Forest
Service

September 2015

DRAFT Environmental Impact Statement

Becker Integrated Resource Project

Appendices A through J

Boise National Forest
Idaho City Ranger Districts
Boise County, Idaho

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Appendix A:

Road Tables by Alternative

Becker Integrated Resource Project

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Table 1 lists the existing National Forest System (NFS) roads within the Project area along with the associated Operational Maintenance Level (ML) and the current motor vehicle use status.

Table 2 lists the existing NFS roads within the Project area along with the treatments and motor vehicle use status as proposed under Alternative B.

Table 3 lists the existing NFS roads within the Project area along with the treatments and motor vehicle use status as proposed under Alternative C.

Table 4 lists the existing NFS roads within the Project area along with the treatments and motor vehicle use status as proposed under Alternative D.

Table 5 lists the existing NFS roads within the Project area along with the treatments and motor vehicle use status as proposed under Alternative E.

Table 6 lists the existing NFS roads within the Project area along with the treatments and motor vehicle use status as proposed under Alternative F.

Table 7 lists the unauthorized roads that would be added to the NFS transportation system under all of the action alternatives. These roads were identified in the Becker TAP as needed for future forest management and they would be included in the Minimum Road System for the Becker project area.

Table 8 lists the permanent new roads that would be constructed and added to the NFS transportation system under all of the action alternatives. These roads were identified in the Becker TAP as needed for future forest management and they would be included in the Minimum Road System for the Becker pProject area.

Table 9 lists the temporary roads that would be constructed under each of the action alternatives. These roads would be constructed to the minimum standard required to accommodate hauling and the associated harvesting equipment. Following use, they would be returned to a natural state or a single track non-motorized trail.

The haul roads listed in Table 10 are the routes that would be needed for removing forest products under each of the action alternatives. Specifications for the performance of maintenance and specified road work for each road are included in the timber sale contract. The level of work required to prepare the roads for haul falls within the following categories:

- Maintenance—Basic road maintenance using a road grader to smooth out the driving surface and the cleaning of culvert inlet and outlets with a backhoe as needed to maintain proper function. A water truck applies water as needed to provide for good compaction of the graded surface and to control dust. This work applies to roads which are already open to vehicular traffic and are typically maintained annually by the Forest Service road maintenance crew.
- Light—Includes basic road maintenance tasks in addition to removal of vegetation, mainly brush, as needed from the roadbed and road shoulders, installation of drainage features such as drain dips and relief culverts, removal of earthen barriers and waterbars, and occasional road template re-shaping and widening. This work applies to roads which have limited vehicular traffic and are not typically maintained on a regular basis and to roads which have been closed to vehicular traffic for years but require some work to re-open them for use.

- Heavy—These roads are typically overgrown with brush and small trees which needed to be removed, require excavation work to regain road width, installation of drainage features such as drain dips and relief culverts, and removal of earthen barriers and waterbars.
- Construct—These road segments are associated with the relocation of roads. The work includes clearing within the road right of way, construction of a slash filter windrow at the toe of the road fill, excavation to establish the roadbed, installation of culverts and drain dips, and application of grass seed mix with straw mulch to establish vegetative growth on the new slopes.

  In addition to the road work to prepare roads for use, recurrent maintenance takes place during the hauling period and final maintenance occurs at the conclusion of use of the roads.
- Recurrent maintenance—This is basic road surface maintenance related to the number of truck trips on a particular road segment as well as addressing road drainage needs. Maintenance cycles are typically based on once per 60 truck trips, however they vary based on the composition of the road surface and weather patterns.
- Final maintenance—At the conclusion of hauling operations final maintenance specifications are implemented. Roads to remain open to motorized use would receive a final maintenance pass including surface blade work and cleaning of all drainage features. For roads which would be put back to a ML 1 status post haul, the roadbed would be lightly ripped to break up surface compaction, waterbars installed, roadbed seeded with a grass seed mix, and the entrance would be blocked with an earthen barrier, boulders, or gate.

Some road numbers are listed more than once in the tables because different treatments, uses, or operational maintenance levels may be proposed for portions of the same road.

Table 1. Alternative A—Existing National Forest System roads within the project area

Road Number	Length (miles)	Operational Maintenance Level	Alternative A—Motor Vehicle Use Status
025LL	0.79	2	Road Open to All Vehicles, Yearlong
025LM	0.72	2	Road Open to All Vehicles, Yearlong
025M	1.63	2	Road Open to All Vehicles, Yearlong
025N	2.04	2	Road Open to All Vehicles, Yearlong
025N1	0.22	1	Road Closed to All Vehicles
025N2	0.28	1	Road Closed to All Vehicles
025O	0.58	2	Road Open to All Vehicles, Yearlong
025O1	0.44	2	Road Open to All Vehicles, Yearlong
025O2	0.46	2	Road Open to All Vehicles, Yearlong
025O3	0.12	2	Road Open to All Vehicles, Yearlong
025P	2.07	1	Road Closed to All Vehicles
025PA	0.94	1	Road Closed to All Vehicles
025Q	0.30	3	Road Open to All Vehicles, Yearlong
025Q1	0.09	3	Road Open to All Vehicles, Yearlong
312	1.18	3	Road Open to All Vehicles, Yearlong
336	5.50	1	Road Closed to All Vehicles
336	1.70	2	Road Open to All Vehicles, Yearlong
336B	3.92	2	Road Open to All Vehicles, Yearlong
336B1	0.43	1	Road Closed to All Vehicles
336B2	0.18	1	Road Closed to All Vehicles
336B3	0.44	1	Road Closed to All Vehicles
336B4	0.47	1	Road Closed to All Vehicles
336B5	0.29	1	Road Closed to All Vehicles
336B6	0.13	1	Road Closed to All Vehicles
336B7	1.09	1	Road Closed to All Vehicles
336B8	0.34	1	Road Closed to All Vehicles
336C	2.39	2	Road Open to All Vehicles, 06/16–09/14
336D	2.33	1	Road Closed to All Vehicles
351	3.62	2	Road Open to All Vehicles, Yearlong
351A	1.25	1	Road Closed to All Vehicles
351A1	0.56	1	Road Closed to All Vehicles
351B2	0.53	1	Road Closed to All Vehicles
362	3.08	2	Road Open to All Vehicles, Yearlong
362	7.49	2	Road Open to All Vehicles, 06/16–09/14
362A	0.13	2	Road Open to All Vehicles, Yearlong
362A	0.09	1	Road Closed to All Vehicles
362B	0.82	2	Road Open to All Vehicles, Yearlong
362B1	0.88	1	Road Closed to All Vehicles
362B2	0.82	1	Road Closed to All Vehicles

Road Number	Length (miles)	Operational Maintenance Level	Alternative A—Motor Vehicle Use Status
362C	3.82	1	Road Closed to All Vehicles
362C1	1.70	1	Road Closed to All Vehicles
362D	1.77	1	Road Closed to All Vehicles
362D1	1.69	2	Road Open to All Vehicles, 06/16–09/14
362D2	0.84	1	Road Closed to All Vehicles
362D3	0.15	1	Road Closed to All Vehicles
362D4	0.91	1	Road Closed to All Vehicles
362D5	0.80	1	Road Closed to All Vehicles
362D6	0.48	1	Road Closed to All Vehicles
362E	1.14	1	Road Closed to All Vehicles
362E1	1.08	1	Road Closed to All Vehicles
362E2	0.80	1	Road Closed to All Vehicles
362E3	2.37	1	Road Closed to All Vehicles
362F	6.44	2	Road Open to All Vehicles, 06/16–09/14
362F	1.02	1	Road Closed to All Vehicles
362F1	0.75	1	Road Closed to All Vehicles
362F2	0.48	1	Road Closed to All Vehicles
362F3	0.38	1	Road Closed to All Vehicles
362F4	0.73	2	Road Open to All Vehicles, 06/16–09/14
362F5	0.53	1	Road Closed to All Vehicles
362G	3.82	2	Road Open to All Vehicles, 06/16–09/14
362G1	3.90	1	Road Closed to All Vehicles
362G2	1.11	2	Road Open to All Vehicles, 06/16–09/14
362G3	2.18	2	Road Open to All Vehicles, 06/16–09/14
362G4	0.30	2	Road Open to All Vehicles, 06/16–09/14
362G5	0.38	2	Road Open to All Vehicles, 06/16–09/14
362G6	2.96	1	Road Closed to All Vehicles
362G7	0.60	1	Road Closed to All Vehicles
362G8	0.90	1	Road Closed to All Vehicles
362G9	0.70	1	Road Closed to All Vehicles
362G9	0.35	2	Road Open to All Vehicles, 06/16–09/14
384	4.31	3	Road Open to All Vehicles, Yearlong
384A	0.21	3	Road Open to All Vehicles, Yearlong
385	10.83	2	Road Open to All Vehicles, Yearlong
385A	1.50	1	Road Closed to All Vehicles
385B	2.81	1	Road Closed to All Vehicles
385C	0.62	1	Road Closed to All Vehicles
385D	1.64	1	Road Closed to All Vehicles
385E	2.17	2	Road Open to All Vehicles, Yearlong
385F	1.15	2	Road Open to All Vehicles, Yearlong

Road Number	Length (miles)	Operational Maintenance Level	Alternative A—Motor Vehicle Use Status
393	8.60	2	Road Open to All Vehicles, Yearlong
393A	2.42	1	Road Closed to All Vehicles
393A1	0.88	1	Road Closed to All Vehicles
393A2	0.45	1	Road Closed to All Vehicles
393B	1.99	1	Road Closed to All Vehicles
393B1	0.43	1	Road Closed to All Vehicles
393C	1.24	1	Road Closed to All Vehicles
393D	1.09	1	Road Closed to All Vehicles
393D1	0.46	1	Road Closed to All Vehicles
393E	0.80	1	Road Closed to All Vehicles
393F	0.45	1	Road Closed to All Vehicles
393G	0.11	1	Road Closed to All Vehicles
393G1	0.24	1	Road Closed to All Vehicles
393H	0.36	1	Road Closed to All Vehicles
393I	0.55	1	Road Closed to All Vehicles
393J	0.26	2	Road Open to All Vehicles, Yearlong
393K	0.18	2	Road Open to All Vehicles, Yearlong
393L	1.43	1	Road Closed to All Vehicles
393M	0.56	1	Road Closed to All Vehicles
394	0.12	2	Road Open to All Vehicles, Yearlong
394	3.21	1	Road Closed to All Vehicles
394A	1.14	1	Road Closed to All Vehicles
394B	1.85	2	Road Open to All Vehicles, Yearlong
394B	0.16	1	Road Closed to All Vehicles
394B1	0.39	1	Road Closed to All Vehicles
394B2	0.39	2	Road Open to All Vehicles, Yearlong
394B3	0.18	1	Road Closed to All Vehicles
394BA	0.63	1	Road Closed to All Vehicles
394C	1.02	1	Road Closed to All Vehicles

Table 2. Alternative B—National Forest System road treatments and motor vehicle use

Road Number	Length (miles)	Alt B—Road Treatment	Operational Maintenance Level	Alternative B—Motor Vehicle Use Status
025LL	0.79	No Change	2	Road Open to All Vehicles, Yearlong
025LM	0.72	No Change	2	Road Open to All Vehicles, Yearlong
025M	1.26	No Change	2	Road Open to All Vehicles, Yearlong
025M	0.37	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N	2.04	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N1	0.22	Decommission		None
025N2	0.28	Decommission		None
025O	0.29	No Change	2	Road Open to All Vehicles, Yearlong
025O	0.29	Decommission		None
025O1	0.44	No Change	2	Road Open to All Vehicles, Yearlong
025O2	0.46	Convert to non-motorized trail		None
025O3	0.12	Decommission		None
025P	1.21	No Change	1	Road Closed to All Vehicles
025P	0.7	Convert to non-motorized trail		None
025P	0.10	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025PA	0.94	No Change	1	Road Closed to All Vehicles
025Q	0.30	No Change	3	Road Open to All Vehicles, Yearlong
025Q1	0.09	No Change	3	Road Open to All Vehicles, Yearlong
312	1.18	No Change	3	Road Open to All Vehicles, Yearlong
336	2.99	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336	1.70	No Change	2	Road Open to All Vehicles, Yearlong
336	2.51	No Change	1	Road Closed to All Vehicles
336B	3.92	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B1	0.43	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B2	0.18	Decommission		None
336B3	0.44	Decommission		None
336B4	0.47	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B5	0.29	Decommission		None

Road Number	Length (miles)	Alt B—Road Treatment	Operational Maintenance Level	Alternative B—Motor Vehicle Use Status
336B6	0.13	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B7	1.09	Decommission		None
336B8	0.34	No Change	1	Road Closed to All Vehicles
336C	2.39	No Change	2	Road Open to All Vehicles, 06/16–09/14
336D	0.22	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336D	2.11	Decommission		None
351	3.62	No Change	2	Road Open to All Vehicles, Yearlong
351A	1.25	No Change	1	Road Closed to All Vehicles
351A1	0.56	No Change	1	Road Closed to All Vehicles
351B2	0.53	Decommission		None
362	3.08	No Change	2	Road Open to All Vehicles, Yearlong
362	7.49	No Change	2	Road Open to All Vehicles, 06/16–09/14
362A	0.13	No Change	2	Road Open to All Vehicles, Yearlong
362A	0.09	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362B	0.82	No Change	2	Road Open to All Vehicles, Yearlong
362B1	0.88	Decommission		None
362B2	0.82	Decommission		None
362C	3.82	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362C1	1.70	Decommission		None
362D	0.77	Convert to non-motorized trail		None
362D	1.00	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D1	0.93	Decommission		None
362D1	0.76	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D2	0.60	No Change	1	Road Closed to All Vehicles
362D2	0.24	Decommission		None
362D3	0.15	No Change	1	Road Closed to All Vehicles
362D4	0.91	Decommission		None
362D5	0.49	Convert to non-motorized trail		None
362D5	0.31	Decommission		None
362D6	0.28	Decommission		None
362D6	0.20	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong

Road Number	Length (miles)	Alt B—Road Treatment	Operational Maintenance Level	Alternative B—Motor Vehicle Use Status
362E	1.14	No Change	1	Road Closed to All Vehicles
362E1	1.08	No Change	1	Road Closed to All Vehicles
362E2	0.80	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362E3	1.39	No Change	1	Road Closed to All Vehicles
362E3	0.98	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362F	6.44	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362F	1.02	No Change	1	Road Closed to All Vehicles
362F1	0.75	Convert to non-motorized trail		None
362F2	0.48	Decommission		None
362F3	0.38	Convert to non-motorized trail		None
362F4	0.73	Convert to non-motorized trail		None
362F5	0.53	No Change	1	Road Closed to All Vehicles
362G	1.43	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362G	2.39	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G1	2.76	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G1	1.14	No Change	1	Road Closed to All Vehicles
362G2	1.08	Close—ML 1	1	Road Closed to All Vehicles
362G2	0.03	Close—ML 1 Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G3	2.18	Close—ML 1 Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G4	0.30	Close—ML 1	1	Road Closed to All Vehicles
362G5	0.38	Close—ML 1	1	Road Closed to All Vehicles
362G6	2.20	No Change	1	Road Closed to All Vehicles
362G6	0.76	Convert to non-motorized trail		None
362G7	0.60	No Change	1	Road Closed to All Vehicles
362G8	0.90	No Change	1	Road Closed to All Vehicles
362G9	0.70	No Change	1	Road Closed to All Vehicles
362G9	0.35	Close—ML 1	1	Road Closed to All Vehicles
384	4.31	No Change	3	Road Open to All Vehicles, Yearlong
384A	0.21	No Change	3	Road Open to All Vehicles, Yearlong
385	10.83	No Change	2	Road Open to All Vehicles, Yearlong
385A	1.50	No Change	1	Road Closed to All Vehicles
385B	1.95	No Change	1	Road Closed to All Vehicles

Road Number	Length (miles)	Alt B—Road Treatment	Operational Maintenance Level	Alternative B—Motor Vehicle Use Status
385B	0.86	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385C	0.62	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385D	1.64	No Change	1	Road Closed to All Vehicles
385E	2.17	Close—ML 1	1	Road Closed to All Vehicles
385F	1.15	Close—ML 1	1	Road Closed to All Vehicles
393	7.02	No Change	2	Road Open to All Vehicles, Yearlong
393	0.48	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
393	1.10	Decommission		None
393A	2.42	No Change	1	Road Closed to All Vehicles
393A1	0.88	Decommission		None
393A2	0.45	Decommission		None
393B	0.29	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393B	1.70	Decommission		None
393B1	0.43	Decommission		None
393C	1.01	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393C	0.23	Decommission		None
393D	1.09	No Change	1	Road Closed to All Vehicles
393D1	0.46	Decommission		None
393E	0.80	Decommission		None
393F	0.45	Decommission		None
393G	0.11	Decommission		None
393G1	0.24	Decommission		None
393H	0.36	Decommission		None
393I	0.47	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393I	0.08	Decommission		None
393J	0.26	Close—ML 1	1	Road Closed to All Vehicles
393K	0.18	Decommission		None
393L	1.43	Decommission		None
393M	0.56	Decommission		None
394	0.12	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
394	3.21	No Change	1	Road Closed to All Vehicles
394A	1.14	No Change	1	Road Closed to All Vehicles
394B	1.85	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
394B	0.16	Change to ML 2 Admin	2A	Road Closed to Public Motorized

Road Number	Length (miles)	Alt B—Road Treatment	Operational Maintenance Level	Alternative B—Motor Vehicle Use Status
				Use, Yearlong
394B1	0.39	No Change	1	Road Closed to All Vehicles
394B2	0.39	Close—ML 1	1	Road Closed to All Vehicles
394B3	0.18	Decommission		None
394BA	0.63	No Change	1	Road Closed to All Vehicles
394C	1.02	Decommission		None

Table 3. Alternative C—National Forest System road treatments and motor vehicle use

Road Number	Length (miles)	Alt C—Road Treatment	Operational Maintenance Level	Alternative C—Motor Vehicle Use Status
025LL	0.79	No Change	2	Road Open to All Vehicles, Yearlong
025LM	0.72	No Change	2	Road Open to All Vehicles, Yearlong
025M	1.26	No Change	2	Road Open to All Vehicles, Yearlong
025M	0.37	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N	2.04	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N1	0.22	Decommission		None
025N2	0.28	Decommission		None
025O	0.29	No Change	2	Road Open to All Vehicles, Yearlong
025O	0.29	Decommission		None
025O1	0.44	No Change	2	Road Open to All Vehicles, Yearlong
025O2	0.46	Convert to non-motorized trail		None
025O3	0.12	Decommission		None
025P	1.21	No Change	1	Road Closed to All Vehicles
025P	0.76	Convert to non-motorized trail		None
025P	0.10	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025PA	0.94	No Change	1	Road Closed to All Vehicles
025Q	0.30	No Change	3	Road Open to All Vehicles, Yearlong
025Q1	0.09	No Change	3	Road Open to All Vehicles, Yearlong
312	1.18	No Change	3	Road Open to All Vehicles, Yearlong
336	2.99	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336	1.70	No Change	2	Road Open to All Vehicles, Yearlong
336	2.51	No Change	1	Road Closed to All Vehicles
336B	3.92	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B1	0.43	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B2	0.18	Decommission		None
336B3	0.44	Decommission		None
336B4	0.47	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B5	0.29	Decommission		None
336B6	0.13	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
336B7	1.09	Decommission		None
336B8	0.34	No Change	1	Road Closed to All Vehicles
336C	2.39	No Change	2	Road Open to All Vehicles, 06/16–09/14
336D	0.22	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14

Road Number	Length (miles)	Alt C—Road Treatment	Operational Maintenance Level	Alternative C—Motor Vehicle Use Status
336D	2.11	Decommission		None
351	3.62	No Change	2	Road Open to All Vehicles, Yearlong
351A	1.25	No Change	1	Road Closed to All Vehicles
351A1	0.56	No Change	1	Road Closed to All Vehicles
351B2	0.53	Decommission		None
362	3.08	No Change	2	Road Open to All Vehicles, Yearlong
362	7.49	No Change	2	Road Open to All Vehicles, 06/16–09/14
362A	0.13	No Change	2	Road Open to All Vehicles, Yearlong
362A	0.09	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362B	0.82	No Change	2	Road Open to All Vehicles, Yearlong
362B1	0.88	Decommission		None
362B2	0.82	Decommission		None
362C	3.82	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362C1	1.70	Decommission		None
362D	0.77	Convert to non-motorized trail		None
362D	1.00	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D1	0.93	Decommission		None
362D1	0.76	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D2	0.60	No Change	1	Road Closed to All Vehicles
362D2	0.24	Decommission		None
362D3	0.15	No Change	1	Road Closed to All Vehicles
362D4	0.91	Decommission		None
362D5	0.49	Convert to non-motorized trail		None
362D5	0.31	Decommission		None
362D6	0.28	Decommission		None
362D6	0.20	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362E	1.14	No Change	1	Road Closed to All Vehicles
362E1	1.08	No Change	1	Road Closed to All Vehicles
362E2	0.80	Convert to motorized trail		Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362E3	1.39	No Change	1	Road Closed to All Vehicles
362E3	0.98	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362F	4.06	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362F	2.38	No Change	2	Road Open to All Vehicles, 06/16–09/14
362F	1.02	No Change	1	Road Closed to All Vehicles

Road Number	Length (miles)	Alt C—Road Treatment	Operational Maintenance Level	Alternative C—Motor Vehicle Use Status
362F1	0.75	Convert to non-motorized trail		None
362F2	0.48	Decommission		None
362F3	0.38	Convert to non-motorized trail		None
362F4	0.73	Convert to non-motorized trail		None
362F5	0.53	No Change	1	Road Closed to All Vehicles
362G	1.43	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362G	2.39	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G1	2.76	Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G1	1.14	No Change	1	Road Closed to All Vehicles
362G2	1.11	Close—ML 1 Co-locate motorized trail	1	Trail Open to Vehicles <50 inches in Width, 06/16–09/14
362G3	2.18	Close—ML 1	1	Road Closed to All Vehicles
362G4	0.30	Close—ML 1	1	Road Closed to All Vehicles
362G5	0.38	Close—ML 1	1	Road Closed to All Vehicles
362G6	2.20	No Change	1	Road Closed to All Vehicles
362G6	0.76	Convert to non-motorized trail		None
362G7	0.60	No Change	1	Road Closed to All Vehicles
362G8	0.90	No Change	1	Road Closed to All Vehicles
362G9	0.70	No Change	1	Road Closed to All Vehicles
362G9	0.35	Close—ML 1	1	Road Closed to All Vehicles
384	4.31	No Change	3	Road Open to All Vehicles, Yearlong
384A	0.21	No Change	3	Road Open to All Vehicles, Yearlong
385	10.83	No Change	2	Road Open to All Vehicles, Yearlong
385A	1.50	No Change	1	Road Closed to All Vehicles
385B	1.95	No Change	1	Road Closed to All Vehicles
385B	0.86	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385C	0.62	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385D	1.64	No Change	1	Road Closed to All Vehicles
385E	2.17	Close—ML 1	1	Road Closed to All Vehicles
385F	1.15	Close—ML 1	1	Road Closed to All Vehicles
393	7.02	No Change	2	Road Open to All Vehicles, Yearlong
393	0.48	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
393	1.10	Decommission		None
393A	2.42	No Change	1	Road Closed to All Vehicles
393A1	0.88	Decommission		None

Road Number	Length (miles)	Alt C—Road Treatment	Operational Maintenance Level	Alternative C—Motor Vehicle Use Status
393A2	0.45	Decommission		None
393B	0.29	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393B	1.70	Decommission		None
393B1	0.43	Decommission		None
393C	1.01	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393C	0.23	Decommission		None
393D	1.09	No Change	1	Road Closed to All Vehicles
393D1	0.46	Decommission		None
393E	0.80	Decommission		None
393F	0.45	Decommission		None
393G	0.11	Decommission		None
393G1	0.24	Decommission		None
393H	0.36	Decommission		None
393I	0.47	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393I	0.08	Decommission		None
393J	0.26	Close—ML 1	1	Road Closed to All Vehicles
393K	0.18	Decommission		None
393L	1.43	Decommission		None
393M	0.56	Decommission		None
394	0.12	Seasonally Open	2	Road Open to All Vehicles, 06/16–09/14
394	3.21	No Change	1	Road Closed to All Vehicles
394A	1.14	No Change	1	Road Closed to All Vehicles
394B	1.85	Seasonally Open	2	Road Open to All Vehicles, 06/16–09/14
394B	0.16	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, 06/16–09/14
394B1	0.39	No Change	1	Road Closed to All Vehicles
394B2	0.39	Close—ML 1	1	Road Closed to All Vehicles
394B3	0.18	Decommission		None
394BA	0.63	No Change	1	Road Closed to All Vehicles
394C	1.02	Decommission		None

Table 4. Alternative D—National Forest System road treatments and motor vehicle use

Road Number	Length (miles)	Alt D—Road Treatment	Operational Maintenance Level	Alternative D—Motor Vehicle Use Status
025LL	0.79	No Change	2	Road Open to All Vehicles, Yearlong
025LM	0.72	No Change	2	Road Open to All Vehicles, Yearlong
025M	1.26	No Change	2	Road Open to All Vehicles, Yearlong
025M	0.37	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N	2.04	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N1	0.22	Decommission		None
025N2	0.28	Decommission		None
025O	0.29	No Change	2	Road Open to All Vehicles, Yearlong
025O	0.29	Decommission		None
025O1	0.44	No Change	2	Road Open to All Vehicles, Yearlong
025O2	0.46	Convert to non-motorized trail		None
025O3	0.12	Decommission		None
025P	1.21	No Change	1	Road Closed to All Vehicles
025P	0.76	Convert to non-motorized trail		None
025P	0.10	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025PA	0.94	No Change	1	Road Closed to All Vehicles
025Q	0.30	No Change	3	Road Open to All Vehicles, Yearlong
025Q1	0.09	No Change	3	Road Open to All Vehicles, Yearlong
312	1.18	No Change	3	Road Open to All Vehicles, Yearlong
336	2.99	Co-locate motorized trail	1	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
336	1.70	No Change	2	Road Open to All Vehicles, Yearlong
336	2.51	No Change	1	Road Closed to All Vehicles
336B	3.92	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
336B1	0.43	Convert to motorized trail		Trail Open to Vehicles <60 inches in Width, 06/16–09/14
336B2	0.18	Decommission		None
336B3	0.44	Decommission		None
336B4	0.47	Convert to motorized trail		Trail Open to Vehicles <60 inches in Width, 06/16–09/14
336B5	0.29	Decommission		None
336B6	0.13	Convert to motorized trail		Trail Open to Vehicles <60 inches in Width, 06/16–09/14
336B7	1.09	Decommission		None
336B8	0.34	No Change	1	Road Closed to All Vehicles
336C	2.39	No Change	2	Road Open to All Vehicles, 06/16–09/14

Road Number	Length (miles)	Alt D—Road Treatment	Operational Maintenance Level	Alternative D—Motor Vehicle Use Status
336D	0.22	Convert to motorized trail		Trail Open to Vehicles <60 inches in Width, 06/16–09/14
336D	2.11	Decommission		None
351	3.62	No Change	2	Road Open to All Vehicles, Yearlong
351A	1.25	No Change	1	Road Closed to All Vehicles
351A1	0.56	No Change	1	Road Closed to All Vehicles
351B2	0.53	Decommission		None
362	3.08	No Change	2	Road Open to All Vehicles, Yearlong
362	7.49	No Change	2	Road Open to All Vehicles, 06/16–09/14
362A	0.13	No Change	2	Road Open to All Vehicles, Yearlong
362A	0.09	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362B	0.82	No Change	2	Road Open to All Vehicles, Yearlong
362B1	0.88	Decommission		None
362B2	0.82	Decommission		None
362C	3.82	Co-locate motorized trail	1	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
362C1	1.70	Decommission		None
362D	0.77	Convert to non-motorized trail		None
362D	1.00	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D1	0.93	Decommission		None
362D1	0.76	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D2	0.60	No Change	1	Road Closed to All Vehicles
362D2	0.24	Decommission		None
362D3	0.15	No Change	1	Road Closed to All Vehicles
362D4	0.91	Decommission		None
362D5	0.49	Convert to non-motorized trail		None
362D5	0.31	Decommission		None
362D6	0.28	Decommission		None
362D6	0.20	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362E	1.14	No Change	1	Road Closed to All Vehicles
362E1	1.08	No Change	1	Road Closed to All Vehicles
362E2	0.80	Convert to motorized trail		Trail Open to Vehicles <60 inches in Width, 06/16–09/14
362E3	1.39	No Change	1	Road Closed to All Vehicles
362E3	0.98	Co-locate motorized trail	1	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
362F	4.06	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong

Road Number	Length (miles)	Alt D—Road Treatment	Operational Maintenance Level	Alternative D—Motor Vehicle Use Status
362F	2.38	Open Yearlong	2	Road Open to All Vehicles, Yearlong
362F	1.02	No Change	1	Road Closed to All Vehicles
362F1	0.75	Convert to non-motorized trail		None
362F2	0.48	Decommission		None
362F3	0.38	Convert to non-motorized trail		None
362F4	0.73	Convert to non-motorized trail		None
362F5	0.53	No Change	1	Road Closed to All Vehicles
362G	1.43	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362G	2.39	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
362G1	2.76	Co-locate motorized trail	1	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
362G1	1.14	No Change	1	Road Closed to All Vehicles
362G2	1.11	Close—ML 1 Co-locate motorized trail	1	Trail Open to Vehicles <60 inches in Width, 06/16–09/14
362G3	2.18	Close—ML 1	1	Road Closed to All Vehicles
362G4	0.30	Close—ML 1	1	Road Closed to All Vehicles
362G5	0.38	Close—ML 1	1	Road Closed to All Vehicles
362G6	2.20	No Change	1	Road Closed to All Vehicles
362G6	0.76	Convert to non-motorized trail		None
362G7	0.60	No Change	1	Road Closed to All Vehicles
362G8	0.90	No Change	1	Road Closed to All Vehicles
362G9	0.70	No Change	1	Road Closed to All Vehicles
362G9	0.35	Close—ML 1	1	Road Closed to All Vehicles
384	4.31	No Change	3	Road Open to All Vehicles, Yearlong
384A	0.21	No Change	3	Road Open to All Vehicles, Yearlong
385	10.83	No Change	2	Road Open to All Vehicles, Yearlong
385A	1.50	No Change	1	Road Closed to All Vehicles
385B	1.95	No Change	1	Road Closed to All Vehicles
385B	0.86	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385C	0.62	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385D	1.64	No Change	1	Road Closed to All Vehicles
385E	2.17	Close—ML 1	1	Road Closed to All Vehicles
385F	1.15	Close—ML 1	1	Road Closed to All Vehicles
393	7.02	No Change	2	Road Open to All Vehicles, Yearlong

Road Number	Length (miles)	Alt D—Road Treatment	Operational Maintenance Level	Alternative D—Motor Vehicle Use Status
393	0.48	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
393	1.10	Decommission		None
393A	2.42	No Change	1	Road Closed to All Vehicles
393A1	0.88	Decommission		None
393A2	0.45	Decommission		None
393B	0.29	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393B	1.70	Decommission		None
393B1	0.43	Decommission		None
393C	1.01	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393C	0.23	Decommission		None
393D	1.09	No Change	1	Road Closed to All Vehicles
393D1	0.46	Decommission		None
393E	0.80	Decommission		None
393F	0.45	Decommission		None
393G	0.11	Decommission		None
393G1	0.24	Decommission		None
393H	0.36	Decommission		None
393I	0.47	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393I	0.08	Decommission		None
393J	0.26	Close—ML 1	1	Road Closed to All Vehicles
393K	0.18	Decommission		None
393L	1.43	Decommission		None
393M	0.56	Decommission		None
394	0.12	No Change	2	Road Open to All Vehicles, Yearlong
394	3.21	No Change	1	Road Closed to All Vehicles
394A	1.14	No Change	1	Road Closed to All Vehicles
394B	1.85	No Change	2	Road Open to All Vehicles, Yearlong
394B	0.16	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
394B1	0.39	No Change	1	Road Closed to All Vehicles
394B2	0.39	Close—ML 1	1	Road Closed to All Vehicles
394B3	0.18	Decommission		None
394BA	0.63	No Change	1	Road Closed to All Vehicles
394C	1.02	Decommission		None

Table 5. Alternative E—National Forest System road treatments and motor vehicle use

Road Number	Length (miles)	Alt E—Road Treatment	Operational Maintenance Level	Alternative E—Motor Vehicle Use Status
025LL	0.79	No Change	2	Road Open to All Vehicles, Yearlong
025LM	0.72	No Change	2	Road Open to All Vehicles, Yearlong
025M	1.26	No Change	2	Road Open to All Vehicles, Yearlong
025M	0.37	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N	2.04	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N1	0.22	Decommission		None
025N2	0.28	Decommission		None
025O	0.29	No Change	2	Road Open to All Vehicles, Yearlong
025O	0.29	Decommission		None
025O1	0.44	No Change	2	Road Open to All Vehicles, Yearlong
025O2	0.46	Convert to non-motorized trail		None
025O3	0.12	Decommission		None
025P	1.21	No Change	1	Road Closed to All Vehicles
025P	0.76	Convert to non-motorized trail		None
025P	0.10	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025PA	0.94	No Change	1	Road Closed to All Vehicles
025Q	0.30	No Change	3	Road Open to All Vehicles, Yearlong
025Q1	0.09	No Change	3	Road Open to All Vehicles, Yearlong
312	1.18	No Change	3	Road Open to All Vehicles, Yearlong
336	1.70	No Change	2	Road Open to All Vehicles, Yearlong
336	5.50	No Change	1	Road Closed to All Vehicles
336B	3.92	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
336B1	0.43	Decommission		None
336B2	0.18	Decommission		None
336B3	0.44	Decommission		None
336B4	0.47	Decommission		None
336B5	0.29	Decommission		None
336B6	0.13	Decommission		None
336B7	1.09	Decommission		None
336B8	0.34	No Change	1	Road Closed to All Vehicles
336C	2.39	No Change	2	Road Open to All Vehicles, 06/16–09/14
336D	2.33	Decommission		None
351	3.62	No Change	2	Road Open to All Vehicles, Yearlong
351A	1.25	No Change	1	Road Closed to All Vehicles
351A1	0.56	No Change	1	Road Closed to All Vehicles

Road Number	Length (miles)	Alt E—Road Treatment	Operational Maintenance Level	Alternative E—Motor Vehicle Use Status
351B2	0.53	Decommission		None
362	3.08	No Change	2	Road Open to All Vehicles, Yearlong
362	7.49	No Change	2	Road Open to All Vehicles, 06/16–09/14
362A	0.13	No Change	2	Road Open to All Vehicles, Yearlong
362A	0.09	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362B	0.82	No Change	2	Road Open to All Vehicles, Yearlong
362B1	0.88	Decommission		None
362B2	0.82	Decommission		None
362C	3.82	No Change	1	Road Closed to All Vehicles
362C1	1.70	Decommission		None
362D	0.77	Convert to non-motorized trail		None
362D	1.00	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D1	0.93	Decommission		None
362D1	0.76	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D2	0.60	No Change	1	Road Closed to All Vehicles
362D2	0.24	Decommission		None
362D3	0.15	No Change	1	Road Closed to All Vehicles
362D4	0.91	Decommission		None
362D5	0.49	Convert to non-motorized trail		None
362D5	0.31	Decommission		None
362D6	0.28	Decommission		None
362D6	0.20	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362E	1.14	No Change	1	Road Closed to All Vehicles
362E1	1.08	No Change	1	Road Closed to All Vehicles
362E2	0.80	Decommission		None
362E3	2.37	No Change	1	Road Closed to All Vehicles
362F	6.44	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362F	1.02	No Change	1	Road Closed to All Vehicles
362F1	0.75	Convert to non-motorized trail		None
362F2	0.48	Decommission		None
362F3	0.38	Convert to non-motorized trail		None
362F4	0.73	Convert to non-motorized trail		None
362F5	0.53	No Change	1	Road Closed to All Vehicles
362G	3.82	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong

Road Number	Length (miles)	Alt E—Road Treatment	Operational Maintenance Level	Alternative E—Motor Vehicle Use Status
362G1	3.90	No Change	1	Road Closed to All Vehicles
362G2	1.11	Close—ML 1	1	Road Closed to All Vehicles
362G3	2.18	Close—ML 1	1	Road Closed to All Vehicles
362G4	0.30	Close—ML 1	1	Road Closed to All Vehicles
362G5	0.38	Close—ML 1	1	Road Closed to All Vehicles
362G6	0.31	No Change	1	Road Closed to All Vehicles
362G6	2.65	Convert to non-motorized trail		None
362G7	0.60	No Change	1	Road Closed to All Vehicles
362G8	0.90	No Change	1	Road Closed to All Vehicles
362G9	1.05	Convert to non-motorized trail		None
384	4.31	No Change	3	Road Open to All Vehicles, Yearlong
384A	0.21	No Change	3	Road Open to All Vehicles, Yearlong
385	10.83	No Change	2	Road Open to All Vehicles, Yearlong
385A	1.50	No Change	1	Road Closed to All Vehicles
385B	1.95	No Change	1	Road Closed to All Vehicles
385B	0.86	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385C	0.62	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385D	1.64	No Change	1	Road Closed to All Vehicles
385E	2.17	Close—ML 1	1	Road Closed to All Vehicles
385F	1.15	Close—ML 1	1	Road Closed to All Vehicles
393	7.02	No Change	2	Road Open to All Vehicles, Yearlong
393	0.48	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
393	1.10	Decommission		None
393A	2.42	No Change	1	Road Closed to All Vehicles
393A1	0.88	Decommission		None
393A2	0.45	Decommission		None
393B	0.29	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393B	1.70	Decommission		None
393B1	0.43	Decommission		None
393C	1.01	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393C	0.23	Decommission		None
393D	1.09	No Change	1	Road Closed to All Vehicles
393D1	0.46	Decommission		None
393E	0.80	Decommission		None
393F	0.45	Decommission		None
393G	0.11	Decommission		None

Road Number	Length (miles)	Alt E—Road Treatment	Operational Maintenance Level	Alternative E—Motor Vehicle Use Status
393G1	0.24	Decommission		None
393H	0.36	Decommission		None
393I	0.47	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393I	0.08	Decommission		None
393J	0.26	Close—ML 1	1	Road Closed to All Vehicles
393K	0.18	Decommission		None
393L	1.43	Decommission		None
393M	0.56	Decommission		None
394	0.12	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
394	3.21	No Change	1	Road Closed to All Vehicles
394A	1.14	No Change	1	Road Closed to All Vehicles
394B	1.85	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
394B	0.16	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
394B1	0.39	No Change	1	Road Closed to All Vehicles
394B2	0.39	Close—ML 1	1	Road Closed to All Vehicles
394B3	0.18	Decommission		None
394BA	0.63	No Change	1	Road Closed to All Vehicles
394C	1.02	Decommission		None

Table 6. Alternative F—National Forest System road treatments and motor vehicle use

Road Number	Length (miles)	Alt F—Road Treatment	Operational Maintenance Level	Alternative F—Motor Vehicle Use Status
025LL	0.79	No Change	2	Road Open to All Vehicles, Yearlong
025LM	0.72	No Change	2	Road Open to All Vehicles, Yearlong
025M	1.26	No Change	2	Road Open to All Vehicles, Yearlong
025M	0.37	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N	2.04	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025N1	0.22	Decommission		None
025N2	0.28	Decommission		None
025O	0.29	No Change	2	Road Open to All Vehicles, Yearlong
025O	0.29	Decommission		None
025O1	0.44	No Change	2	Road Open to All Vehicles, Yearlong
025O2	0.46	Convert to non-motorized trail		None
025O3	0.12	Decommission		None
025P	1.21	No Change	1	Road Closed to All Vehicles
025P	0.76	Convert to non-motorized trail		None
025P	0.10	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
025PA	0.94	No Change	1	Road Closed to All Vehicles
025Q	0.30	No Change	3	Road Open to All Vehicles, Yearlong
025Q1	0.09	No Change	3	Road Open to All Vehicles, Yearlong
312	1.18	No Change	3	Road Open to All Vehicles, Yearlong
336	2.99	Co-locate motorized trail	1	Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
336	1.70	No Change	2	Road Open to All Vehicles, Yearlong
336	2.51	No Change	1	Road Closed to All Vehicles
336B	3.92	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
336B1	0.43	Convert to motorized trail		Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
336B2	0.18	Decommission		None
336B3	0.44	Decommission		None
336B4	0.47	Convert to motorized trail		Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
336B5	0.29	Decommission		None
336B6	0.13	Convert to motorized trail		Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
336B7	1.09	Decommission		None
336B8	0.34	No Change	1	Road Closed to All Vehicles
336C	2.39	No Change	2	Road Open to All Vehicles, 06/16–09/14

Road Number	Length (miles)	Alt F—Road Treatment	Operational Maintenance Level	Alternative F—Motor Vehicle Use Status
336D	0.22	Convert to motorized trail		Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
336D	2.11	Decommission		None
351	3.62	No Change	2	Road Open to All Vehicles, Yearlong
351A	1.25	No Change	1	Road Closed to All Vehicles
351A1	0.56	No Change	1	Road Closed to All Vehicles
351B2	0.53	Decommission		None
362	3.08	No Change	2	Road Open to All Vehicles, Yearlong
362	7.49	No Change	2	Road Open to All Vehicles, 06/16–09/14
362A	0.13	No Change	2	Road Open to All Vehicles, Yearlong
362A	0.09	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362B	0.82	No Change	2	Road Open to All Vehicles, Yearlong
362B1	0.88	Decommission		None
362B2	0.82	Decommission		None
362C	0.37	No Change	1	Road Closed to All Vehicles
362C	3.45	Co-locate motorized trail	1	Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
362C1	1.70	Decommission		None
362D	0.77	Convert to non-motorized trail		None
362D	1.00	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D1	0.93	Decommission		None
362D1	0.76	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362D2	0.60	No Change	1	Road Closed to All Vehicles
362D2	0.24	Decommission		None
362D3	0.15	No Change	1	Road Closed to All Vehicles
362D4	0.91	Decommission		None
362D5	0.49	Convert to non-motorized trail		None
362D5	0.31	Decommission		None
362D6	0.28	Decommission		None
362D6	0.20	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362E	1.14	No Change	1	Road Closed to All Vehicles
362E1	1.08	No Change	1	Road Closed to All Vehicles
362E2	0.80	Decommission		None
362E3	2.37	No Change	1	Road Closed to All Vehicles
362F	4.06	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362F	2.38	No Change	2	Road Open to All Vehicles, 06/16–09/14

Road Number	Length (miles)	Alt F—Road Treatment	Operational Maintenance Level	Alternative F—Motor Vehicle Use Status
362F	1.02	No Change	1	Road Closed to All Vehicles
362F1	0.75	Convert to non-motorized trail		None
362F2	0.48	Decommission		None
362F3	0.38	Convert to non-motorized trail		None
362F4	0.73	Convert to non-motorized trail		None
362F5	0.53	No Change	1	Road Closed to All Vehicles
362G	2.19	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
362G	1.63	Close—ML 2 Admin Co-locate motorized trail	2A	Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
362G1	2.76	Co-locate motorized trail	1	Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
362G1	1.14	No Change	1	Road Closed to All Vehicles
362G2	1.11	Close—ML 1 Co-locate motorized trail	1	Trail Open to Vehicles ≤60 inches in Width, 06/16–09/14
362G3	2.18	Close—ML 1	1	Road Closed to All Vehicles
362G4	0.30	Close—ML 1	1	Road Closed to All Vehicles
362G5	0.38	Close—ML 1	1	Road Closed to All Vehicles
362G6	0.31	No Change	1	Road Closed to All Vehicles
362G6	2.65	Convert to non-motorized trail		None
362G7	0.60	No Change	1	Road Closed to All Vehicles
362G8	0.90	No Change	1	Road Closed to All Vehicles
362G9	1.05	Convert to non-motorized trail		None
384	4.31	No Change	3	Road Open to All Vehicles, Yearlong
384A	0.21	No Change	3	Road Open to All Vehicles, Yearlong
385	10.83	No Change	2	Road Open to All Vehicles, Yearlong
385A	1.50	No Change	1	Road Closed to All Vehicles
385B	1.95	No Change	1	Road Closed to All Vehicles
385B	0.86	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385C	0.62	Change to ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
385D	1.64	No Change	1	Road Closed to All Vehicles
385E	2.17	Close—ML 1	1	Road Closed to All Vehicles
385F	1.15	Close—ML 1	1	Road Closed to All Vehicles
393	7.02	No Change	2	Road Open to All Vehicles, Yearlong
393	0.48	Close—ML 2 Admin	2A	Road Closed to Public Motorized Use, Yearlong
393	1.10	Decommission		None

Road Number	Length (miles)	Alt F—Road Treatment	Operational Maintenance Level	Alternative F—Motor Vehicle Use Status
393A	2.42	No Change	1	Road Closed to All Vehicles
393A1	0.88	Decommission		None
393A2	0.45	Decommission		None
393B	0.29	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393B	1.70	Decommission		None
393B1	0.43	Decommission		None
393C	1.01	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393C	0.23	Decommission		None
393D	1.09	No Change	1	Road Closed to All Vehicles
393D1	0.46	Decommission		None
393E	0.80	Decommission		None
393F	0.45	Decommission		None
393G	0.11	Decommission		None
393G1	0.24	Decommission		None
393H	0.36	Decommission		None
393I	0.47	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, Yearlong
393I	0.08	Decommission		None
393J	0.26	Close—ML 1	1	Road Closed to All Vehicles
393K	0.18	Decommission		None
393L	1.43	Decommission		None
393M	0.56	Decommission		None
394	0.12	Seasonally Open	2	Road Open to All Vehicles, 06/16–09/14
394	3.21	No Change	1	Road Closed to All Vehicles
394A	1.14	No Change	1	Road Closed to All Vehicles
394B	1.85	Seasonally Open	2	Road Open to All Vehicles, 06/16–09/14
394B	0.16	Reconst ML 1 to ML 2	2	Road Open to All Vehicles, 06/16–09/14
394B1	0.39	No Change	1	Road Closed to All Vehicles
394B2	0.39	Close—ML 1	1	Road Closed to All Vehicles
394B3	0.18	Decommission		None
394BA	0.63	No Change	1	Road Closed to All Vehicles
394C	1.02	Decommission		None

Table 7. Unauthorized roads added to the National Forest System transportation system and motor vehicle use

UA Road Number	Length (miles)	Operational Maintenance Level	Motor Vehicle Use Status
X025M1	0.30	2A	Road Closed to Public Motorized Use, Yearlong
X025M2	0.05	2A	Road Closed to Public Motorized Use, Yearlong
X362F2	0.11	2A	Road Closed to Public Motorized Use, Yearlong
X362F3	0.08	2A	Road Closed to Public Motorized Use, Yearlong
X384C	0.37	2A	Road Closed to Public Motorized Use, Yearlong
X385	0.17	2A	Road Closed to Public Motorized Use, Yearlong
X385B6	0.08	2A	Road Closed to Public Motorized Use, Yearlong
X393A4	0.24	2A	Road Closed to Public Motorized Use, Yearlong
X393A4-1	0.09	2A	Road Closed to Public Motorized Use, Yearlong
X393A5	0.29	2A	Road Closed to Public Motorized Use, Yearlong
X394B	0.14	2A	Road Closed to Public Motorized Use, Yearlong
X393B2	0.32	2	Road Open to All Vehicles, Yearlong
X025Q1	0.54	1	Road Closed to All Vehicles
X393A1	1.50	1	Road Closed to All Vehicles
X394A1	0.32	1	Road Closed to All Vehicles
Total	4.60		

Table 8. new constructed roads added to the National Forest System transportation system and motor vehicle use

New Construction Segment No.	Length (miles)	Operational Maintenance Level	Motor Vehicle Use Status
1	0.54	2	Road Open to All Vehicles, Yearlong
2	0.62	2	Road Open to All Vehicles, Yearlong
3	0.03	2A	Road Closed to Public Motorized Use, Yearlong
Total	1.19		

Table 9. Temporary road construction to facilitate the removal of forest products

Temporary Road Name	Length (miles)	Existing Road Template	Used in Alt B	Used in Alt C	Used in Alt D	Used in Alt E	Used in Alt F
Temp1	0.16	No	X	X	X	X	X
Temp2	0.48	No	X	X	X	X	X
Temp3	0.40	No	X	X	X		X
Temp7	0.25	No	X	X	X	X	X
Temp8	0.79	No	X	X	X		X
Temp10	0.79	Yes	X	X	X		
Temp11	0.12	Yes	X	X	X	X	X
Temp12	0.30	Yes	X	X	X		
Temp13	0.17	Yes	X	X	X		
Temp14	0.39	No	X	X	X		X
Temp15	0.43	No	X	X	X		X
Temp16	0.12	No	X	X	X		X
Temp17	0.10	Yes	X	X	X		X
Temp18	0.34	Yes	X	X	X		X
Temp19	0.33	Yes	X	X	X		X
Temp20	0.16	Yes	X	X	X	X	X
Temp21	0.20	No	X	X	X		
Temp22	0.09	Yes			X		
Temp23	0.17	Yes			X		
Temp24	0.31	Yes			X		
Temp25	0.17	Yes			X		
Temp26	0.29	Yes	X	X	X	X	X
	Total	Miles Used	5.82	5.82	6.56	1.46	4.36

Table 10. Haul roads by alternative

Haul Road Number	Length (miles)	Level of Work to Prepare for Haul	Miles Used in Alt B	Miles Used in Alt C	Miles Used in Alt D	Miles Used in Alt E	Miles Used in Alt F
025M	1.26	Light			1.26		
025N	2.04	Light	2.04	2.04	2.04	2.04	2.04
025N1	0.22	Light	0.22	0.22	0.22	0.22	0.22
025O	0.29	Light	0.29	0.29	0.29	0.29	0.29
025O1	0.44	Light	0.44	0.44	0.44	0.44	0.44
025P	0.88	Light	0.88	0.88	0.88	0.88	0.88

Haul Road Number	Length (miles)	Level of Work to Prepare for Haul	Miles Used in Alt B	Miles Used in Alt C	Miles Used in Alt D	Miles Used in Alt E	Miles Used in Alt F
336B	1.17	Heavy	1.17	1.17	1.17	1.17	1.17
336B7	0.62	Heavy	0.62	0.62	0.62	0.62	0.62
351	3.62	Light	3.62	3.62	3.62	3.62	3.62
351B2	0.53	Light	0.53	0.53	0.53	0.53	0.53
362	10.57	Maintenance	10.57	10.57	10.57	10.57	10.57
362B	0.82	Maintenance	0.82	0.82	0.82	0.82	0.82
362B1	0.50	Heavy	0.50	0.50	0.50	0.50	0.50
362D	1.01	Light	1.01	1.01	1.01	1.01	1.01
362D1	1.70	Light	1.70	1.70	1.70	1.70	1.70
362D2	0.04	Light	0.04	0.04	0.04	0.04	0.04
362D6	0.20	Light	0.20	0.20	0.20	0.20	0.20
362F	4.51	Heavy	4.51	4.51	4.51	4.51	4.51
362G	3.83	Light	3.83	3.83	3.83	3.83	3.83
362G5	0.38	Heavy	0.38	0.38	0.38	0.38	0.38
362G6	1.89	Heavy	1.89	1.89	1.89	0.00	0.00
362G9	0.42	Heavy	0.42	0.42	0.42	0.35	0.35
384	3.17	Maintenance	3.17	3.17	3.17	3.17	3.17
385B	0.36	Heavy	0.36	0.36	0.36	0.00	0.00
393	3.12	Light	3.12	3.12	3.12	3.12	3.12
393A	2.42	Heavy	2.42	2.42	2.42	2.42	2.42
393B	0.66	Heavy	0.66	0.66	0.66	0.66	0.66
393C	1.01	Heavy	1.01	1.01	1.01	1.01	1.01
393D	1.09	Heavy	1.09	1.09	1.09	1.09	1.09
393I	0.47	Heavy	0.47	0.47	0.47	0.47	0.47
394	3.30	Heavy	3.30	3.30	3.30	3.30	3.30
394B	2.01	Heavy	2.01	2.01	2.01	2.01	2.01
394B1	0.39	Heavy	0.39	0.39	0.39	0.39	0.39
New Construct 1	0.54	Construct	0.54	0.54	0.54	0.54	0.54
New Construct 2	0.62	Construct	0.62	0.62	0.62	0.62	0.62
New Construct 3	0.03	Construct	0.03	0.03	0.03	0.03	0.03
X025Q1	0.54	Heavy	0.54	0.54	0.54	0.54	0.54
X384C	0.37	Heavy	0.37	0.37	0.37	0.37	0.37
X393A1	1.50	Heavy	1.50	1.50	1.50	1.50	1.50
X393B2	0.32	Heavy	0.32	0.32	0.32	0.32	0.32
		Totals	57.60	57.60	58.86	55.28	55.28

Appendix B:

Cumulative Effects:

Past, Present, and Reasonably Foreseeable Activities

Becker Integrated Resource Project

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Past, present/ongoing, and reasonably foreseeable activities within the cumulative effects area were compiled for the interdisciplinary team to consider in their cumulative effects analysis (Figure 1). This area represents a meaningful scale for fire regime patch and pattern as well as recent wildfire disturbances. Additionally, the extent of this cumulative effects area was chosen to compile activities because it was large enough to incorporate the majority of resource area's cumulative effects analysis areas. Each resource specialist defined the cumulative effects analysis area in their technical report. Figure 2 and Figure 3 illustrate the past, present/ongoing, and reasonably foreseeable activities. Table 1 identifies the past, present/ongoing, and reasonably foreseeable activities and the activities considered in each resource analysis.

The past projects considered by resource specialists were assumed to have contributed to the existing conditions for the analyzed resource indicators. Although the incremental impacts of each past activity are not known, the existing resource conditions are representative of those past activities.

Some of the activities listed in the table may be outside the cumulative impact areas analyzed by individual resources areas and, therefore, may not be considered in every resource-specific analysis. Conversely, some resource area's cumulative impact analysis areas may extend well past the project area boundary and/or thee boundary used to compile e list below and, thereby, additional activities may be specified in the resource technical reports.

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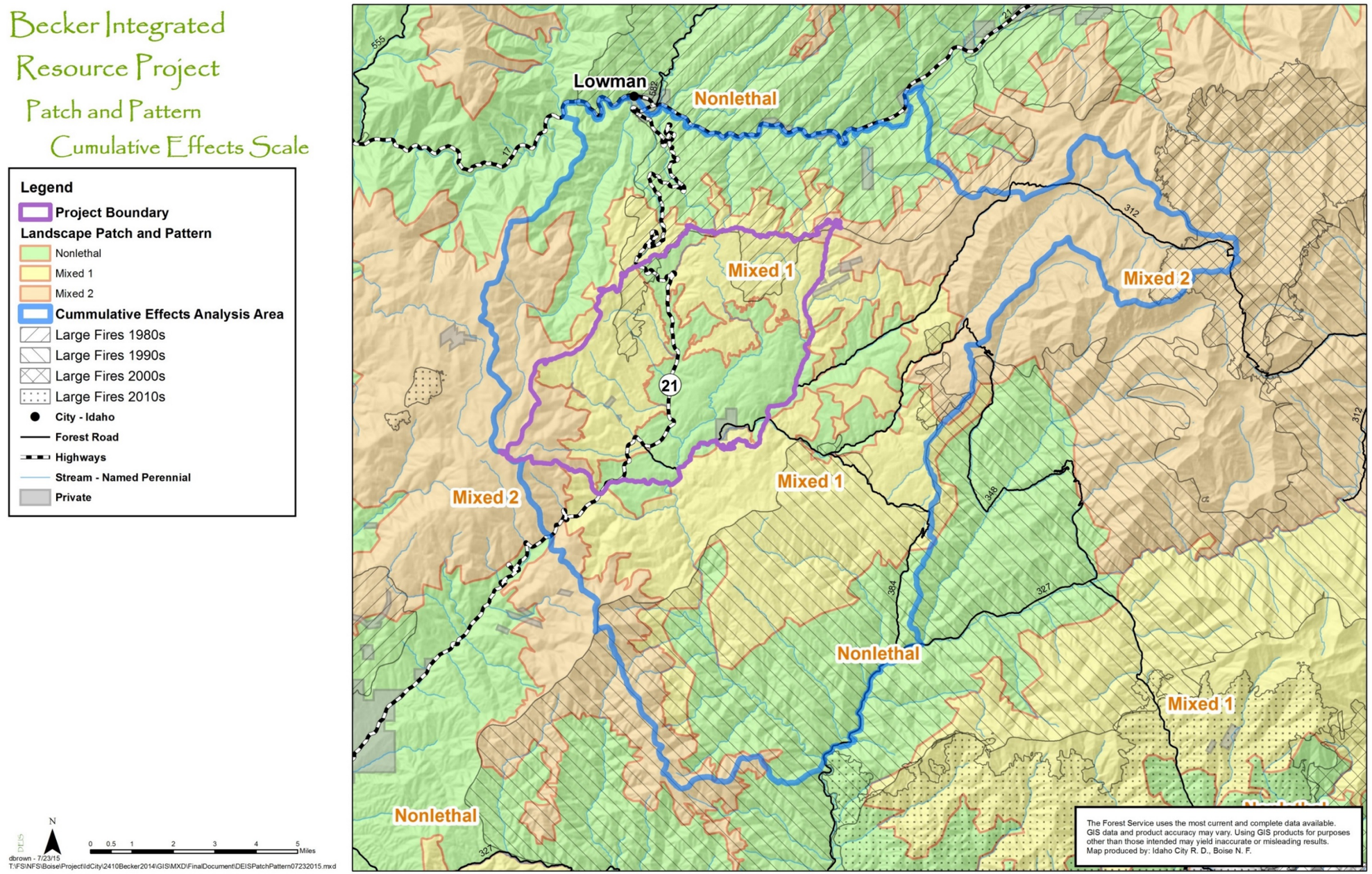

Figure 1. Map of cumulative effects analysis area, landscape patch and pattern fire regimes, and historic large wildfires

Becker Integrated Resource Project

Cumulative Effects - Past Activities

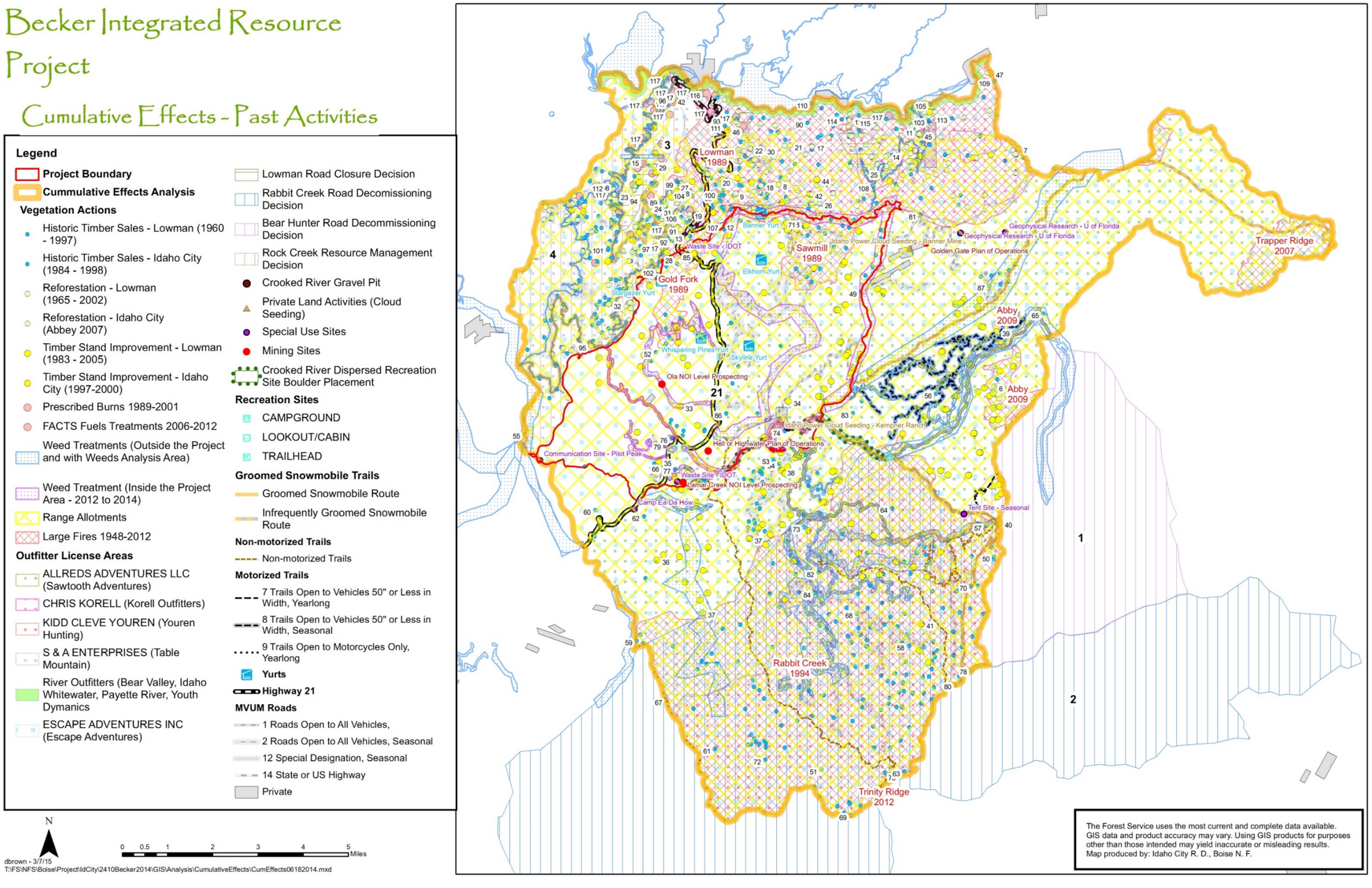

Figure 2. Map of the past activities within the Becker cumulative effects area

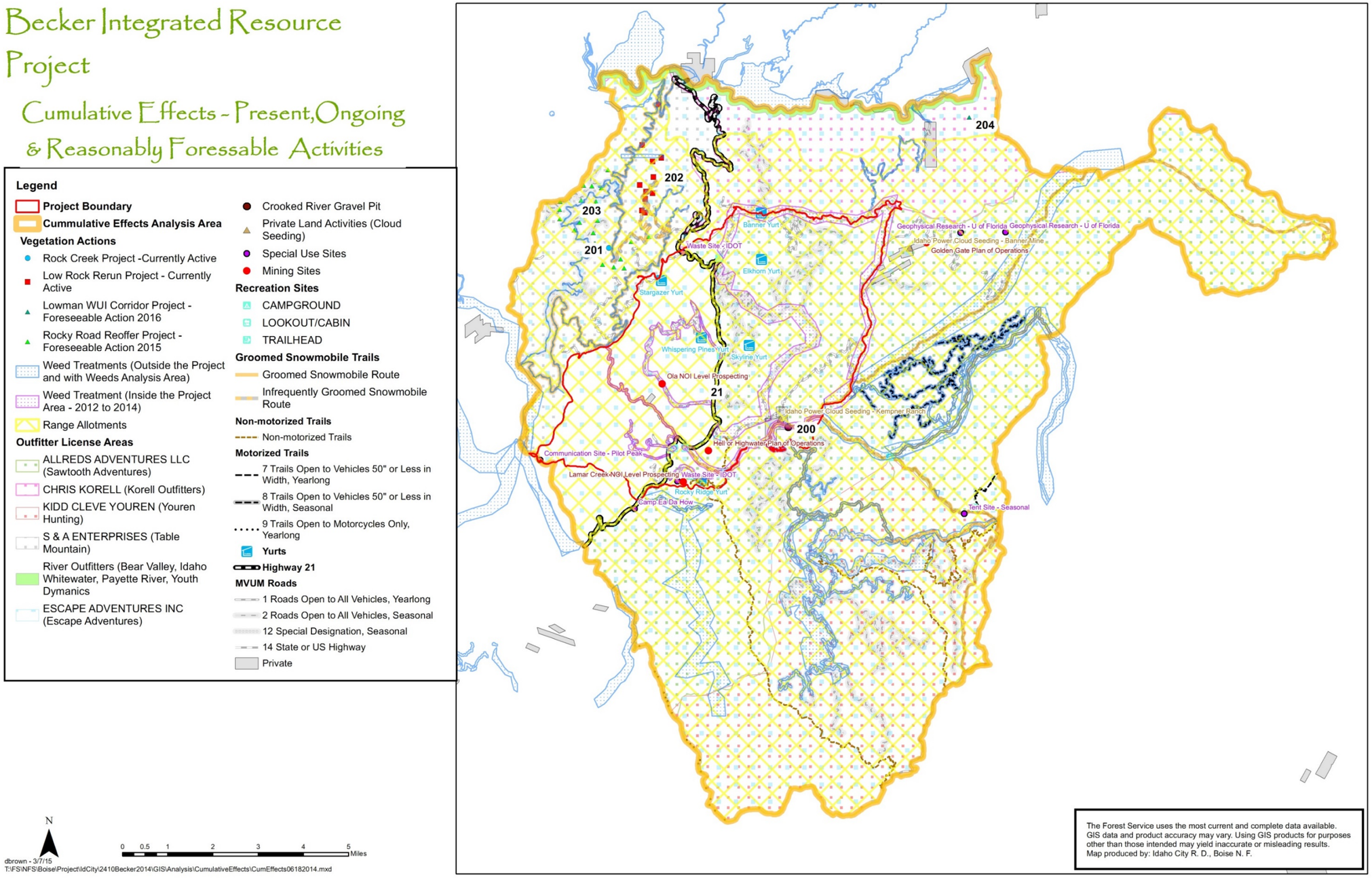

Figure 3. Map of present/ongoing and reasonably foreseeable activities in the Becker cumulative effects area

Table 1. Table of past, present/ongoing and reasonably foreseeable activities within the Becker cumulative effects analysis area and identification of activities considered in resource analyses

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
	PAST ACTIVITIES																						
	Past Transportation Management Activities																						
Road System		Road Construction/ Maintenance	Pre-2014	Yes/No	161 miles (PA) 147 (Cum Effects area)	USFS, ITD	X			X	X	X	X	X	X	X	X	X		X		X	
Trail System		Trail Construction/ Maintenance	Pre-2014	Yes	60 miles 3 miles	USFS, IDPR	X			X	X	X	X	X	X	X		X				X	
Road System		Road Construction/ Maintenance	Pre-2014	No	308 miles	USFS, ITD	X			X				X	X	X		X					
Trail System		Trail Construction/ Maintenance	Pre-2014	No	25 miles (motorized) 26 miles (Non-motorized)	USFS	X			X				X	X	X		X					
1		Bear Hunter Road Decommissioning Project	2001	No	14,464	USFS	X			X				X	X	X							
2		Rabbit Creek Road Decommissioning Project	2002	No	59,165	USFS	X			X				X	X	X							
3		Lowman RD Road Closure Decision	1991	No	1,258	USFS	X			X					X								
4		Rock Creek Resource Management Decision - Road Closures	2004	No	10,868	USFS	X			X					X								
5 not displayed on map		Miscellaneous Seasonal Road Closures in Rock Creek and Kirkham watersheds (no decision documented)	Pre-1991	No	UNK	USFS	X			X					X								
	Past Reforestation Activities																						
6		Abbey Creek Planting (Idaho City RD)	2007	No	229	USFS	X			X				X	X	X							X
7		Jackson (Lowman RD)	1999	No	91	USFS	X			X				X	X								X
8		Steep (Lowman RD)	2002	No	236	USFS	X			X				X	X								X
9		Smokey (Lowman RD)	2002	No	276	USFS	X			X				X	X								X
10		Enchanted Valley (Lowman RD)	2000	No	32	USFS	X			X				X	X								X
11		Archie (Lowman RD)	2000	No	102	USFS	X			X				X	X								X
12		Summit (Lowman RD)	2000	No	12	USFS	X			X				X	X								X
13		Rock (Lowman RD)	2000	No	8	USFS	X			X				X	X								X
14		Archie (Lowman RD)	1996	No	120	USFS	X			X				X	X								X
13		Rock (Lowman RD)	1995	No	154	USFS	X			X				X	X								X
16		Kirkham (Lowman RD)	1995	No	278	USFS	X			X				X	X								X
17		Huckleberry (Lowman RD)	1995	No	851	USFS	X			X				X	X								X

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
18		Lowman (Lowman RD)	1995	No	164	USFS	X			X				X	X								X
9		Smokey (Lowman RD)	1995	No	516	USFS	X			X				X	X								X
8		Steep (Lowman RD)	1995	No	208	USFS	X			X				X	X								X
12		Summit (Lowman RD)	1995	No	36	USFS	X			X				X	X								X
9		Smokey (Lowman RD)	1994	No	133	USFS	X			X				X	X								X
10		Enchanted Valley (Lowman RD)	1994	No	97	USFS	X			X				X	X								X
7		Jackson (Lowman RD)	1994	No	90	USFS	X			X				X	X								X
7		Jackson (Lowman RD)	1994	No	75	USFS	X			X				X	X								X
11		Archie (Lowman RD)	1994	No	371	USFS	X			X				X	X								X
17		Huckleberry (Lowman RD)	1994	No	745	USFS	X			X				X	X								X
16		Kirkham (Lowman RD)	1994	No	29	USFS	X			X				X	X								X
8		Steep (Lowman RD)	1994	No	418	USFS	X			X				X	X								X
12		Summit (Lowman RD)	1994	No	49	USFS	X			X				X	X								X
7		Jackson (Lowman RD)	1993	No	1168	USFS	X			X				X	X								X
9		Smokey (Lowman RD)	1993	No	40	USFS	X			X				X	X								X
11		Archie (Lowman RD)	1993	No	32	USFS	X			X				X	X								X
17		Huckleberry (Lowman RD)	1993	No	12	USFS	X			X				X	X								X
18		Banner (Lowman RD)	1993	No	143	USFS	X			X				X	X								X
8		Steep (Lowman RD)	1992	No	685	USFS	X			X				X	X								X
9		Smokey (Lowman RD)	1992	No	395	USFS	X			X				X	X								X
11		Archie (Lowman RD)	1992	No	1024	USFS	X			X				X	X								X
16		Kirkham (Lowman RD)	1992	No	97	USFS	X			X				X	X								X
17		Huckleberry (Lowman RD)	1992	No	994	USFS	X			X				X	X								X
13		Rock (Lowman RD)	1992	No	166	USFS	X			X				X	X								X
12		Sumt_14 (Lowman RD)	1992	No	95	USFS	X			X				X	X								X
17		Huckleberry (Lowman RD)	1991	No	990	USFS	X			X				X	X								X
16		Kirkham (Lowman RD)	1991	No	376	USFS	X			X				X	X								X
9		Smokey (Lowman RD)	1991	No	609	USFS	X			X				X	X								X
8		Steep 24 (Lowman RD)	1991	No	357	USFS	X			X				X	X								X
19		Road Fork (Lowman RD)	1991	No	230	USFS	X			X				X	X								X
16		Kirkham (Lowman RD)	1990	No	157	USFS	X			X				X	X								X
10		Lowman (Lowman RD)	1990	No	355	USFS	X			X				X	X								X
13		Rock 424/101 (Lowman RD)	1989	No	11	USFS	X			X				X	X								X
13		Rock 424/102 (Lowman RD)	1989	No	9	USFS	X			X				X	X								X
20		Wagon Road 422/311 (Lowman RD)	1989	No	28	USFS	X			X				X	X								X

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
13		Rock 424/523 (Lowman RD)	1989	No	5	USFS	X			X				X	X								X
13		Rock 424/103 (Lowman RD)	1989	No	11	USFS	X			X				X	X								X
20		Wagon road 422/310 (Lowman RD)	1989	No	16	USFS	X			X				X	X								X
13		Rock 424/505 (Lowman RD)	1989	No	11	USFS	X			X				X	X								X
21		Steep Creek (Lowman RD)	1988	No	383	USFS	X			X				X	X								X
22		Highway 21 (Lowman RD)	1987	No	247	USFS	X			X				X	X								X
23		Rock Creek Blowdown (Lowman RD)	1987	No	417	USFS	X			X				X	X								X
24		Miller Creek (Lowman RD)	1985	No	29	USFS	X			X				X	X								X
25		Kirkham Burn (Lowman RD)	1984	No	302	USFS	X			X				X	X								X
26		Archie Creek (Lowman RD)	1984	No	61	USFS	X			X				X	X								X
27		Rock Creek (Lowman RD)	1983	No	644	USFS	X			X				X	X								X
27		Rock Creek (Lowman RD)	1981	No	543	USFS	X			X				X	X								X
28		Rock Creek East (Lowman RD)	1980	No	186	USFS	X			X				X	X								X
25		Kirkham Burn (Lowman RD)	1979	No	571	USFS	X			X				X	X								X
27		Rock Creek (Lowman RD)	1977	No	139	USFS	X			X				X	X								X
26		Archie Creek (Lowman RD)	1977	No	36	USFS	X			X				X	X								X
27		Rock Creek (Lowman RD)	1977	No	51	USFS	X			X				X	X								X
29		Upper Road Fork (Lowman RD)	1976	No	84	USFS	X			X				X	X								X
30		Archie Creek West (Lowman RD)	1975	No	52	USFS	X			X				X	X								X
26		Archie Creek (Lowman RD)	1973	No	94	USFS	X			X				X	X								X
31		Rock Creek East (Lowman RD)	1972	No	185	USFS	X			X				X	X								X
32		Rock Creek Planting (Lowman RD)	1965	No	250	USFS	X			X				X	X								X
	Past Timber Stand Improvement Activities																						
33		Beaver Creek (Idaho City RD)	1997	Yes	490	USFS	X			X	X	X	X	X	X	X						X	
34		Kempner (Idaho City RD)	1997	Yes	103	USFS	X			X	X	X	X	X	X	X						X	
35		Edna Creek (Idaho City	1997	Yes	283	USFS	X			X	X	X	X	X	X	X						X	

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
		RD)																					
36		Lamar Creek (Idaho City RD)	1997	No	220	USFS	X			X				X	X	X							X
37		Sunset Creek (Idaho City RD)	1997	No	393	USFS	X			X				X	X	X							X
33		Beaver Creek (Idaho City RD)	1998	Yes	149	USFS	X			X	X	X	X	X	X	X						X	
34		Kempner (Idaho City RD)	1998	Yes	326	USFS	X			X	X	X	X	X	X	X						X	
38		So Long Eddie (Idaho City RD)	1998	No	157	USFS	X			X				X	X	X							X
36		Lamar Creek (Idaho City RD)	1998	Yes	85	USFS	X			X	X	X	X	X	X	X						X	
37		Crooked River (Idaho City RD)	1998	No	162	USFS	X			X				X	X	X							X
38		Gotch Creek (Idaho City RD)	1999	Yes	641	USFS	X			X	X	X	X	X	X	X						X	
39		Pikes Fork (Idaho City RD)	1999	No	287	USFS	X			X				X	X	X							X
37		Crooked River (Idaho City RD)	1999	No	932	USFS	X			X				X	X	X							X
37		Crooked River (Idaho City RD)	1999	No	286	USFS	X			X				X	X	X							X
40		Abby Creek (Idaho City RD)	1999	No	585	USFS	X			X				X	X	X							X
41		Big Owl - WREN Sapling Tree in (Idaho City RD)	2000	No	1858	USFS	X			X				X	X	X							X
42		Rock TSI (Lowman RD)	2005	No	365	USFS	X			X				X	X								X
43		2001 CL (Lowman RD)	2001	No	9	USFS	X			X				X	X								X
44		in 1998 (Lowman RD)	1998	No	1149	USFS	X			X				X	X								X
45		Archie Creek (Lowman RD)	1988	No	93	USFS	X			X				X	X								X
46		Highway 21 (Lowman RD)	1986	No	573	USFS	X			X				X	X								X
45		Archie Creek (Lowman RD)	1985	No	216	USFS	X			X				X	X								X
47		Payette Slope (Lowman RD)	1984	No	2	USFS	X			X				X	X								X
48		Lower Road Fork (Lowman RD)	1983	No	39	USFS	X			X				X	X								X
	Past Vegetation Management Activities																						
49		Banner City (Idaho City RD)	1990s	Yes	224	USFS	X			X	X	X	X	X	X	X						X	
50		Bear Creek (Idaho City RD)	1990s	No	6823	USFS	X			X				X	X	X							X
51		Blind Camp (Idaho City RD)	1990s	No	1974	USFS	X			X				X	X	X							X
52		China Fork SSTS (Idaho City RD)	1990s	Yes	32	USFS	X			X	X	X	X	X	X	X						X	

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
53		CROOKED WILLOW ((Idaho City RD)	1990s	No	389	USFS	X			X				X	X	X							X
54		So Long Eddie (Idaho City RD)	1990s	No	313	USFS	X			X				X	X	X							X
55		Jack-Wil Salvage (Idaho City RD)	1990s	No	3854	USFS	X			X				X	X	X							X
56		Lazy H (Idaho City RD)	1990s	No	134	USFS	X			X				X	X	X							X
57		Little Owl Cone (Idaho City RD)	1980s	No	10	USFS	X			X				X	X	X							X
58		Lost Overwood (Idaho City RD)	1990s	No	155	USFS	X			X				X	X	X							X
59		Mid Lamar (Idaho City RD)	1990s	No	59	USFS	X			X				X	X	X							X
60		Mores Salvage (Idaho City RD)	1990s	No	6136	USFS	X			X				X	X	X							X
61		Sandy (Idaho City RD)	1990s	No	3772	USFS	X			X				X	X	X							X
62		Sunset-Pilot Salvage (Idaho City RD)	1990s	Yes	23826	USFS	X			X	X	X	X	X	X	X							
63		Wren Salvage (Idaho City RD)	1990s	No	253	USFS	X			X				X	X	X							X
64		Big Owl (Idaho City RD)	1990s	No	6528	USFS	X			X				X	X	X							X
65		Crooked Bear (Idaho City RD)	1990s	No	56	USFS	X			X				X	X	X							X
66		Edna Salvage (Idaho City RD)	1990s	Yes	85	USFS	X			X	X	X	X	X	X	X						X	
67		German Creek (Idaho City RD)	1990s	No	127	USFS	X			X				X	X	X							X
68		Hidden Cabin (Idaho City RD)	1980s	No	964	USFS	X			X				X	X	X							X
69		Hungarian (Idaho City RD)	1980s	No	157	USFS	X			X				X	X	X							X
70		Little Owl SSTS (Idaho City RD)	1980s	No	79	USFS	X			X				X	X	X							X
71		Sawmill (Idaho City RD)	1990s	Yes	517	USFS	X			X	X	X	X	X	X	X						X	
72		Ski Creek (Idaho City RD)	1990s	No	2198	USFS	X			X				X	X	X							X
73		Big Tree (Idaho City RD)	1990s	No	1501	USFS	X			X				X	X	X							X
74		Crooked Pike Salvage (Idaho City RD)	1990s	Yes	22048	USFS	X			X	X	X	X	X	X	X						X	
75		Fire Don (Idaho City RD)	1990s	No	1	USFS	X			X				X	X	X							X
76		Highway 21 LP (Idaho City RD)	1990s	Yes	76	USFS	X			X	X	X	X	X	X	X						X	
77		Lamar LP S & S II (Idaho City RD)	1980s	Yes	37	USFS	X			X	X	X	X	X	X	X						X	
78		North Fork Lodgepole (Idaho City RD)	1980s	No	6	USFS	X			X				X	X	X					X		X
79		Whoop Um Up Ski Loop (Idaho City RD)	1980s	Yes	33	USFS	X			X	X	X	X	X	X	X					X	X	
80		Wren Creek II (Idaho City	1990s	No	4	USFS	X			X				X	X	X					X		X

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
		RD)																					
81		Banner Ridge S & S (Idaho City RD)	1980s	Yes	130	USFS	X			X	X	X	X	X	X	X					X	X	
82		Crooked River (Idaho City RD)	1990s	No	10138	USFS	X			X				X	X	X					X		X
83		Eureka (Idaho City RD)	1990s	No	76	USFS	X			X				X	X	X					X		X
84		Five Corners (Idaho City RD)	1990s	No	248	USFS	X			X				X	X	X					X		X
85		Goldfork Salvage (Idaho City RD)	1990s	Yes	482	USFS	X			X	X	X	X	X	X	X					X	X	
86		Little Beaver (Idaho City RD)	1980s	Yes	1526	USFS	X			X	X	X	X	X	X	X					X	X	
87		Nixon Rock (Idaho City RD)	1980s	No	178	USFS	X			X				X	X						X		X
88		Wagon SS (Lowman RD)	1986	No	30	USFS	X			X				X	X						X		X
89		Upper Road (Lowman RD)	1970	No	154	USFS	X			X				X	X						X		X
90		Steep Huckle (Lowman RD)	1986	No	977	USFS	X			X				X	X						X		X
91		South Rock SS (Lowman RD)	1980	No	368	USFS	X			X				X	X						X		X
92		S. Lowman SS (Lowman RD)	1989	No	344	USFS	X			X				X	X						X		X
93		Smokey Road (Lowman RD)	1990	No	2690	USFS	X			X				X	X						X		X
94		Rocky II (Lowman RD)	1993	No	43	USFS	X			X				X	X						X		X
95		Rock Creek (Lowman RD)	1965	No	625	USFS	X			X				X	X						X		X
96		Rock Creek Road (Lowman RD)	1975	No	394	USFS	X			X				X	X						X		X
97		Rock Creek East (Lowman RD)	1971	No	272	USFS	X			X				X	X						X		X
98		Rock Creek Blowdown (Lowman RD)	1986	No	420	USFS	X			X				X	X						X		X
99		Road SSTS (Lowman RD)	1986	No	48	USFS	X			X				X	X						X		X
100		Road Fork (Lowman RD)	1960	No	706	USFS	X			X				X	X						X		X
95		Rock Creek (Lowman RD)	1965	No	4	USFS	X			X				X	X						X		X
101		Quartzmill (Lowman RD)	1970	No	661	USFS	X			X				X	X						X		X
102		Nor Rock (Lowman RD)	1992	No	311	USFS	X			X				X	X						X		X
103		Meadow SS (Lowman RD)	1997	No	9	USFS	X			X				X	X						X		X
104		Lowman South (Lowman RD)	1992	No	8734	USFS	X			X				X	X						X		X
105		Lowman Nor (Lowman RD)	1993	No	8115	USFS	X			X				X	X						X		X
106		Lower Road (Lowman RD)	1978	No	426	USFS	X			X				X	X						X		X

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
107		Low Wagon Rd (Lowman RD)	1975	No	160	USFS	X			X				X	X						X		X
108		Little Arch (Lowman RD)	1993	No	27	USFS	X			X				X	X						X		X
109		Jackson Creek (Lowman RD)	1990	No	2599	USFS	X			X				X	X						X		X
110		Highway Comb SSTS (Lowman RD)	1994	No	387	USFS	X			X				X	X						X		X
111		Highway 21 (Lowman RD)	1985	No	1116	USFS	X			X				X	X						X		X
112		High Quartz (Lowman RD)	1978	No	312	USFS	X			X				X	X						X		X
113		East Archie (Lowman RD)	1990	No	3142	USFS	X			X				X	X						X		X
114		Berry Steep (Lowman RD)	1990	No	3494	USFS	X			X				X	X						X		X
115		Arch Emma SS (Lowman RD)	1990	No	1244	USFS	X			X				X	X						X		X
	Past Prescribed Fire Activities																						
116		Rx Burns 1989-2001	1989-2001	No	145	USFS		X						X	X								
117		FACTS Fuel Activities 2005-2012	2005-2012	No	1223	USFS		X						X	X								
	Past Large Wildfire Activity																						
not labeled on map[1]		Unnamed Fire	1939	No	226	USFS	X							X	X								
not labeled on map[1]		Unnamed Fire	1948	No	12	USFS	X							X	X								
not labeled on map[1]		Unnamed Fire	1949	No	322	USFS	X							X	X								
not labeled on map[1]		Unnamed Fire	1977	No	1054	USFS	X							X	X								
labeled on map		Gold Fork	1989	Yes	828	USFS	X				X	X	X	X	X	X						X	
labeled on map		Sawmill	1989	Yes	1254	USFS	X				X	X	X	X	X	X						X	
labeled on map		Lowman	1989	No	12,820	USFS	X			X	X	X	X	X	X	X							
labeled on map		Rabbit Creek	1994	No	24,499	USFS	X			X				X	X	X							
labeled on map		Trapper Ridge	2007	No	1,199	USFS	X			X				X	X	X							
labeled on map		Abby	2009	No	885	USFS	X			X				X	X	X							

[1] Not labeled on Map because this fire area was burned over again.

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
labeled on map		Trinity Ridge	2012	No	<1	USFS	X							X	X	X							
	Past Range Management Activities																						
not labeled on map		Sheep Grazing - Boise Basin & Nor Fork Allotments	pre-2013	Yes/No	95,900	USFS	X				X	X	X	X	X	X						X	
	Past Noxious Weed Management Activities																						
not labeled on map		Becker Project Area by Boise County Cooperative Noxious Weed treatment Calendar year 2012-2013; Multiple species, No Overlap Counted	FY2012-13	Yes	279 acres (Project Area) 2846 acres (Cum Effects Area						X	X	X	X	X	X		X			X	X	
not labeled on map		Weed treatments within 5 miles of Becker Project Area boundary	FY2012-13	No	2846						X	X		X	X	X		X					
	Past Recreation Activities																						
not labeled on map		Campground construction/ maintenance (Kirkham Hot springs, Edna Creek, Willow Creek, Whoop Um UP)	Pre-2014	Yes/No	6 sites	USFS				X	X	X		X	X	X		X				X	
not labeled on map		Trailhead Construction and maintenance (Banner Ridge, Gold Fork, Whoop Um UP, Lamar, Crooked River, and Bear Sumt)	Pre-2014	Yes/No	6 sites	USFS	X			X	X	X	X	X	X	X		X			X	X	
Trail System		Non Motorized Trail Construction (NFS Trails 158,264,275,290, 700, 701, 702, 703, 04, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 716, 171, 718, 719, 720, 22, 723, 724, 725, 726, 727, 728, 729, 730)	Pre-2014	Yes/No	3 miles (NFS Trail) 32.4 miles (Unauthorized Trails)	USFS	X			X		X	X	X	X	X		X			X	X	
Trail System		Motorized trail construction/maintenance (NFS Trails 166, 288, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577)	Pre-2014	Yes/No	60 miles	USFS	X			X		X	X	X	X	X		X			X	X	
not labeled on map		Beaver Creek Cabin Construction and Maintenance	Pre-2014	Yes	1 site	USFS	X				X	X	X	X	X	X		X			X	X	
not labeled on map		IDPR Yurt Construction/Maintenance	Pre-2014	Yes/No	6 sites	USFS/State of Idaho	X			X		X	X	X	X	X		X			X	X	
not labeled		Crooked River Dispersed Recreation Site Boulder	UNK	Yes/No	UNK	USFS	X					X	X		X	X		X			X	X	

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
on map		Placement Project																					
not labeled on map		Boise County Snow grooming (over snow motorized trails)	Pre-2014	Yes/No	80 miles	USFS/Oer	X					X						X			X	X	
not labeled on map		IDPR Snow grooming (over snow non-motorized trails)	Pre-2014	Yes/No	29.2 miles	USFS	X					X						X			X	X	
not displayed on map		Fuelwood Gathering	Pre-2014	Yes/No	UNK	USFS	X			X	X	X	X		X			X			X	X	
not displayed on map		Christmas Tree Cutting	Pre-2014	Yes/No	UNK	USFS	X					X			X			X			X	X	
not displayed on map		Dispersed Recreation and Hunting	Pre-2014	Yes/No	Yes/No	USFS				X	X	X	X		X			X	X		X	X	
	Past Special Use Management Activities																						
labeled on map		University of Florida Geo Physical Research	2013	No	2 sites	USFS								X	X			X					
labeled on map		Wall Tent Temp Shelter SUP	2011	No	1 sites	USFS									X			X					
labeled on map		ITD Waste Sites (NFS Rd 025M and Banner Summit)	Pre-2014	Yes	2 sites	USFS						X			X			X				X	
not labeled on map		Escape Adventures	Pre-2014	Yes/No	100,857	USFS						X			X			X					
not labeled on map		Allred Adventures LLC	Pre-2014	Yes/No	67,488	USFS						X			X			X					
not labeled on map		Korell Outfitter and Guide	Pre-2014	No	11,413	USFS									X			X					
not labeled on map		Youren Outfitter and Guide	Pre-2014	No	21,216	USFS									X			X					
not labeled on map		S&A Enterprises Outfitter and Guide	Pre-2014	No	11,387	USFS									X			X					
labeled on map		Camp Ed Da How	Pre-2014	No	1 site	USFS									X			X					
not labeled on map (Payette River)		South Fork Payette River Outfitters and Guides (Bear Valley, Idaho Whitewater, Cascade Raft, and You Dynacs)	Pre-2014	No	1,019	USFS									X			X					
labeled on map		Pilot Peak Communication Site (ID Power SUP)	Pre-2014	Yes	1 site	USFS						X			X			X				X	
	Past Minerals Management/Rehabilitation																						

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
	Activities																						
labeled on map		Banner Mine Complex (Primarily Underground Silver mining)	Pre-2014 (1865-1921, 1960s)	No	400	USFS, Private					X			X	X			X	X				
not displayed on map		Placer mining throughout Project Area	Pre-2014	Yes/No	UNK	USFS					X	X	X	X	X			X	X			X	
labeled on map		Lamar Creek NOI Level Prospecting (Located off of NFS RD 025M)	Pre-2014	Yes	0.1	USFS					X	X	X	X	X			X	X			X	
labeled on map		Ola NOI level prospecting (Located off of NFS Rd 393)	Ongoing	Yes	0.1	USFS					X	X	X	X	X			X	X			X	
labeled on map		Hell or High Water Placer Plan of Operations	2008	Yes	3.5	USFS					X	X	X	X	X			X	X			X	
	Past Private Land Management Activities Residences/Cabins/Ranches																						
labeled on map		Idaho Power Cloud Seeding on Private Lands at Kempner Ranch	Pre-2014	Yes	1 site	Private	X				X	X											
labeled on map		Idaho Power Cloud Seeding on Private Lands near Banner Mine Site	Pre-2014	No	1 site	Private	X				X	X											
	PRESENT/ONGOING ACTIVITIES																						
	Present/Ongoing Transportation Management Activities																						
Road System		Road Construction/Maintenance	Ongoing	Yes/No	161 miles (PA) 147 miles (Cum Effects area)	USFS, ITD	X			X	X	X	X	X	X	X	X	X	X		X		
Trail System		Trail Construction/Maintenance	Ongoing	Yes/No	3 miles (NFS Trail) 32.4 miles (Unauthorized Trails)	USFS, IDPR	X			X	X	X	X	X	X	X		X			X		
		IDT HWY 21 Resurfacing and Culvert Replacements	Ongoing	Yes/No	20 miles	State of Idaho						X		X	X			X			X		
200		Crooked River Gravel Pit	Ongoing	Yes	1 site	USFS						X		X	X			X			X		
	Present/Ongoing Vegetation Management Activities (Harvest, Refor, TSI)																						
201		Rock Creek Timber Sale	Ongoing	No	10,868	USFS	X			X				X	X								X
202		Low Rock Rerun 2014	2014	No	277	USFS	X								X								

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
	Present/Ongoing Prescribed Fire Management Activities																						
201		Rock Creek Timber Sale	Ongoing	No	10,868	USFS	X		X	X				X	X								X
202		Low Rock Rerun 2014	2014	No	277	USFS	X		X						X								
	Present/Ongoing Fire Suppression																						
not displayed on map		Wildfire Suppression	As Needed				X		X				X	X	X	X		X	X			X	X
	Present/Ongoing Range Management Activities																						
not labeled on map		Sheep Grazing - Boise Basin & Nor Fork Allotments	Ongoing	Yes/No	95,900	USFS	X				X	X	X	X	X			X				X	
	Present/Ongoing Noxious Weed Management Activities																						
not labeled on map		Becker Project Area by Boise County Cooperative Noxious Weed treatment Multiple species,	Ongoing	Yes/No	279	USFS					X	X	X	X	X	X		X			X		
not labeled on map		Weed treatments within 5 of Becker Project Area boundary -	Ongoing	No	2846	USFS					X	X		X	X	X		X					
	Present/Ongoing Recreation Activities																						
not labeled on map		IDPR Yurts Maintenance	Ongoing	Yes/No	6 sites	USFS/ IDPR				X		X			X			X				X	
Trail system		IDPR Park and Ski Grooming and Trail Maintenance	Ongoing	Yes	41 miles	USFS				X		X						X				X	
not labeled on map		Boise County 8A Snowmobile Grooming	Ongoing	Yes/No	80 miles	USFS				X		X						X			X	X	
not labeled on map		Campground maintenance (Kirkham Hot springs, Edna Creek, Willow Creek, Whoop Um UP	Ongoing	Yes/No	6 sites	USFS						X		X	X			X				X	
not labeled on map		Trailhead maintenance (Banner Ridge, Gold Fork, Whoop Um UP, Lamar, Crooked River, Bear Sumt	Ongoing	Yes/No	6 sites	USFS						X			X			X				X	
Trail system		Non Motorized Trail Maintenance (NFS Trails 158,264,275,290, 700, 701, 702, 703, 704, 705, 706,707, 708, 709, 710, 711, 712,713,714, 716, 171, 718, 719, 720, 722, 723,724, 725, 726, 727,	Ongoing	Yes/No	3 miles (NFS Trail) 32.4 miles (Unauthorized Trails)	USFS	X			X	X	X		X	X	X		X				X	

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
		728, 729, 730)																					
Trail system		Motorized trail maintenance (NFS Trails 166, 288, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576 ,577)	Ongoing	Yes/No	60 miles	U	X			X		X		X	X	X		X				X	
not labeled on map		Beaver Creek Cabin Maintenance	Ongoing	Yes	1 site	USFS						X			X			X				X	
not displayed on map		Fuelwood Gathering	Ongoing	Yes/No	UNK	USFS	X			X	X	X	X		X			X			X	X	
not displayed on map		Christmas Tree Program	Ongoing	Yes/No	UNK	USFS	X					X			X			X			X	X	
not displayed on map		Dispersed Recreation and Hunting	Ongoing	Yes/No	UNK	USFS				X	X	X	X		X		X	X	X		X	X	
	Present/Ongoing Special Use Management Activities																						
not labeled on map		Escape Adventures	Ongoing	Yes/No	100,857	USFS				X		X			X			X					
not labeled on map		Allred Adventures LLC	Ongoing	Yes/No	67,488	USFS				X		X			X			X					
not labeled on map		Korell Outfitter and Guide	Ongoing	No	11,413	USFS				X					X			X					
not labeled on map		Youren Outfitter and Guide	Ongoing	No	21,216	USFS				X					X			X					
not labeled on map		S&A Enterprises Outfitter and Guide	Pre-2014	No	11,387	USFS									X			X					
not labeled on map (Payette River)		South Fork Payette River Outfitters and Guides (Bear Valley, Idaho Whitewater, Cascade Raft, and Youth Dynamics)	Pre-2014	No		USFS									X			X					
labeled on map		Camp Ed Da How	Ongoing	No	1 site	USFS									X			X					
labeled on map		ITD Waste Sites (NFS Rd 025M and Banner Summit)	Pre-2014	Yes	2 sites	USFS	?					X		X	X			X				X	
labeled on map		Pilot Peak Communication Site (ID Power SUP)	Ongoing	Yes	1 site	USFS						X		X	X			X				X	
	Present/Ongoing Mineral Management/Rehabilitation Activities																						

Map Index Number		Project/Activity	Date	In Project Area?	Area (acres)	Agency/ Ownership	Silv.	Fire/ Fuels	Air Quality	Wildlife	Hydro	Fish	Soils	Botany	Inv. Species Plants	Range	Eng./ Trans.	Rec	Minerals	Cultural	Social Econ	Visuals	Climate Change
labeled on map		Golden Gate Plan of Operations (Underground mining at old Banner Mine Site)	Ongoing	No	5	USFS					X			X	X			X	X				
labeled on map		Lamar Creek NOI Level Prospecting (Located off of NFS RD 025M)	Ongoing	Yes	0.1	USFS					X	X	X	X	X			X	X			X	
labeled on map		Crooked River Placer (Numerous claims and casual use placer mining)	Ongoing	Yes	Unk	USFS					X	X	X	X	X			X	X			X	
labeled on map		Ola NOI level prospecting (Located off of NFS Rd 393)	Ongoing	Yes	0.1	USFS					X	X	X	X	X			X	X			X	
labeled on map		Hell or High Water Plan of Operation (Underground mining)	Ongoing	Yes	0.1	USFS					X	X	X	X	X			X	X			X	
	Present/Ongoing Private Land Management Activities Residences/Cabins/Ranches																						
labeled on map		Idaho Power Cloud Seeding on Private Lands at Kempner Ranch	Ongoing	Yes	1 site	Private					X	X		X									
labeled on map		Idaho Power Cloud Seeding on Private Lands near Banner ne Site	Ongoing	No	1 site	Private					X	X		X									
	REASONABLY FORESEEABLE ACTIVITIES																						
	Reasonably Foreseeable Vegetation Management Activities (Harvest, Refor, TSI)																						
203		Rocky Road (reoffer) 2015	2015	No	741	USFS			X	X				X	X								X
204		Lowman WUI Corridor	2016	No	2023	USFS			X					X	X								
	Reasonably Foreseeable Prescribed Fire Activities																						
203		Rocky Road (reoffer) 2015	2015	No	741	USFS			X	X				X	X								X
204		Lowman WUI Corridor	2016	No	2023	USFS			X					X	X								
	Reasonably Foreseeable Noxious Weed Management Activities																						
Not displayed on Map		Sawtooth and Boise National Forests Invasive Species Treatment EIS	FY2015-2016	Yes	19327	USFS					X	X		X	X	X		X					

Appendix C:

Riparian Conservation Area Tables and Schematics

Becker Integrated Resource Project

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Riparian Conservation Areas (RCAs) incorporate riparian areas along streams as well as wetlands and floodplains associated with stream systems and ponds, lakes, and reservoirs. Aquatic and riparian systems may be affected by adjacent land management activities. RCAs provide both linkage and transitional habitat between hillslopes and upland terrestrial habitats and the aquatic habitats within the stream channels. The 2010 Forest Plan outlines criteria to aid interdisciplinary teams (IDT) in delineating RCAs for perennial and intermittent streams, ponds, lakes, reservoirs, and wetlands (USDA Forest Service 2010, Appendix B, pp. B 32–41*)*. The objective of RCA delineation is to provide boundaries around streams for which management activities must consider and maintain riparian processes and functions important to overall stream and aquatic habitat functionality. Individual management activities may affect riparian process and functions in different ways and magnitudes depending on the type of activity and its proximity to the stream channel, as well as the characteristics of the stream channel at that location. Riparian functions and processes important to properly functioning riparian areas identified in the Forest Plan include:

- Stream shading
- Large woody debris recruitment
- Fine organic litter
- Bank stabilization
- Sediment control
- Nutrients and other dissolved materials
- Riparian microclimate and productivity
- Wildlife habitat
- Windthrow
- Importance of small streams
- Importance of hillslope steepness

For the Becker Project, RCAs have been identified by the IDT using Option 2 as described in the Forest Plan (USDA Forest Service 2010, Appendix B, pp. B-32 through B-41), which uses site potential tree heights (SPTHs) based on the dominant Potential Vegetation Group (PVG) in the stand (Table 1). Option 2 indicates that one SPTH is the RCA buffer distance for intermittent stream channels (as well as ponds, lakes, reservoirs, and wetlands) and two SPTHs is the RCA buffer distance for perennial stream channels. Because the project area contains a wide array of PVGs, the dominant PVG based on the most recent vegetation data is used to delineate RCAs. Table 2 displays the delineated RCAs for the project area and overall acreage associated with each.

Table 1. Site potential tree height distances by Potential Vegetation Group

Potential Vegetation Group	Age	1 Site Tree Height (feet)	2 Site Tree Heights (feet)
1—Dry Ponderosa Pine/Xeric Douglas-fir	200	110	220
2—Warm Dry Douglas-fir/Moist Ponderosa Pine	200	120	240
3—Cool Moist Douglas-fir	200	120	240
4—Cool Dry Douglas-fir	200	100	200
5—Dry Grand Fir	200	110	220
6—Cool Moist Grand Fir	200	130	260
7—Cool Dry Subalpine Fir	200	100	200
8—Cool Moist Subalpine Fir	200	100	200
9—Hydric Subalpine Fir	200	100	200
10—Persistent Lodgepole Pine	[a]	80	160
11—High Elevation Subalpine Fir	200	70	140

Source: USDA Forest Service 2010

[a]In PVG 10 individual trees and stands normally do not achieve an average of 200 years. However, mature lodgepole pine site trees can achieve an average height of approximately 80 feet.

Table 2. Acres of Riparian Conservation Areas within the project area by subwatershed

Subwatershed	Acres
Middle Crooked	4,518
Pikes Fork	1,046
Total	5,564

Proposed management actions associated with the Becker Project have been evaluated with consideration of riparian functions and processes. Distances from streams at which activities may occur have been delineated for each activity proposed to occur within RCAs based on anticipated effects related to site conditions, surveys, modeling results, existing research, and professional judgment. Specifically, vegetation management activities associated with *Purpose and Need 1* (thinning, thinning with product removal, and burning) are proposed within RCA buffers at various distances from the stream channel. Transportation management activities associated with *Purpose and Need 2* (road realignment and road decommissioning—both authorized and unauthorized) are proposed at several locations within RCAs. Recreation management activities associated with *Purpose and Need 3* (including motorized and non-motorized trail designation, and trail-head construction are proposed within RCAs. See Table 3, Table 4, and Table 5 for a complete list of activities and the distances at which they may occur and Figure 1 for a graphical illustration.

Analysis of effects to RCA functions and processes as a result of implementing the proposed actions with the distances assigned in Table 3, Table 4, Table 5 and Figure 2 are discussed in the hydrology and fisheries resource sections of the draft environmental impact statement for the Becker Integrated Resource Project.

Table 3. Perennial streams—outside plantations

Distance from Edge of Stream	Activity
0–50 feet	No non-commercial thinning treatment; backing fire allowed
50–75 feet	Non-commercial thinning allowed with 8-inch diameter limit; pile burning allowed; no broadcast burn ignitions; backing fire allowed
75 feet to 1 site potential tree height	Non-commercial thinning allowed with 8-inch diameter limit; pile burning allowed; broadcast burn ignitions allowed
1 site potential tree height to 2 site potential tree heights	Non-commercial thinning and commercial thinning allowed but no associated equipment allowed off of existing roads

Table 4. Perennial streams—inside plantations

Distance from Edge of Stream	Activity
0–1 shade tree height (modeled as 35 feet)	No non-commercial thinning treatment; backing fire allowed
1 shade tree height (modeled as 35 feet) to 50 feet	Non-commercial thinning allowed; 8-inch diameter limit; lop and scatter only; no pile burning allowed; no broadcast burn ignitions; backing fire allowed
50–75 feet	Non-commercial thinning allowed with 8-inch diameter limit; pile burning allowed; no broadcast burn ignitions; backing fire allowed
75 feet to 1 site potential tree height	Non-commercial thinning allowed with 8-inch diameter limit; pile burning allowed; broadcast burn ignitions allowed
1 site potential tree height to 2 site potential tree heights	Non-commercial thinning and commercial thinning allowed but no associated equipment allowed off of existing roads

Table 5. Intermittent Streams (both inside and outside plantations)

Distance from Edge of Stream	Activity
0–15 feet	No non-commercial thinning treatment; backing fire allowed
15–50 feet	Non-commercial thinning allowed with 8-inch diameter limit; lop and scatter only; no pile burning allowed; no broadcast burn ignitions; backing fire allowed
50–75 feet	Non-commercial thinning allowed with 8-inch diameter limit; pile burning allowed; no broadcast burn ignitions; backing fire allowed
75 feet to 1 site potential tree height	Non-commercial thinning allowed with 8-inch diameter limit; pile burning allowed; broadcast burn ignitions allowed

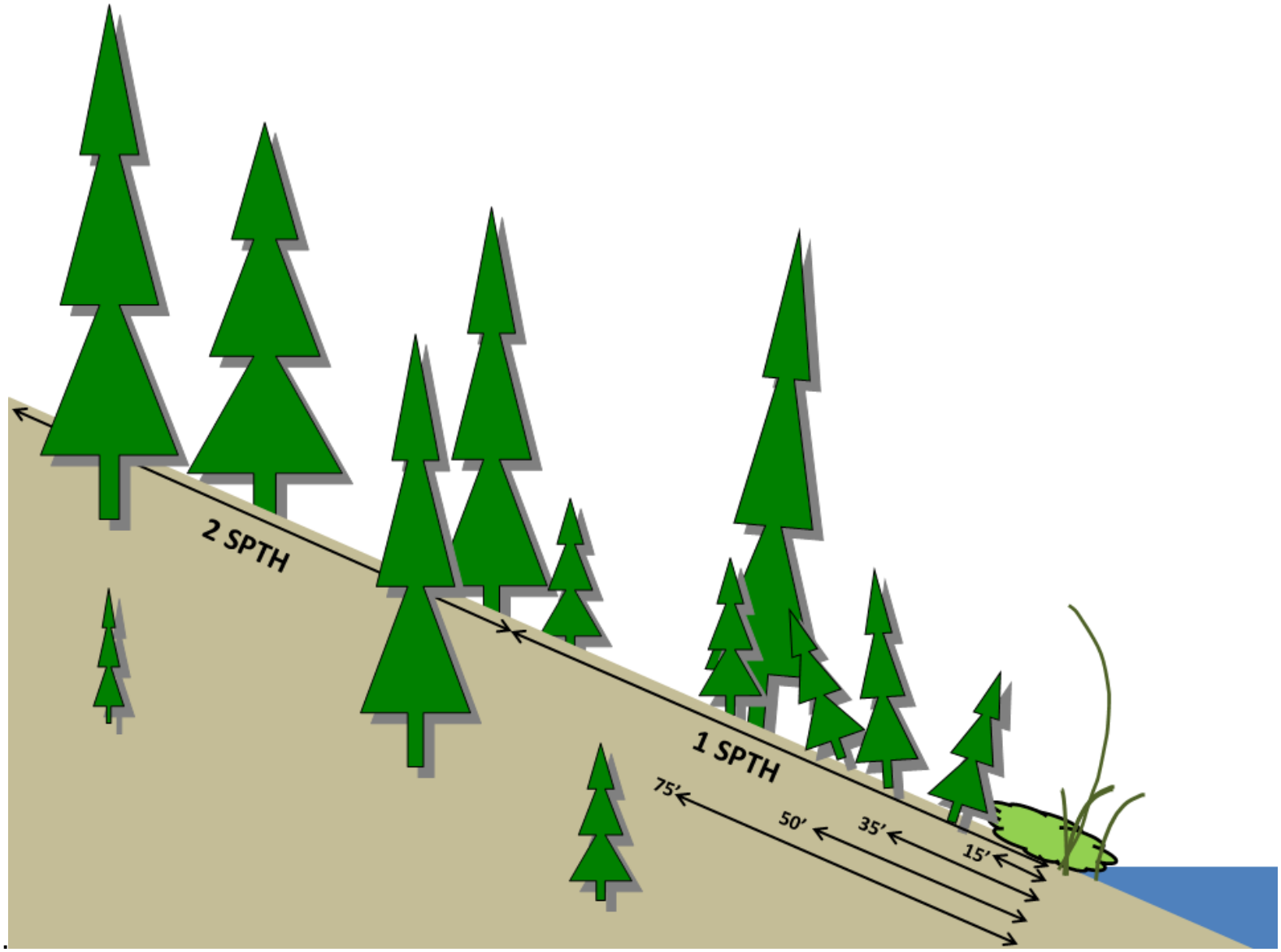

Figure 1. Cross-sectional view of treatment distances from streams described in Table 3, Table 4, and Table 5

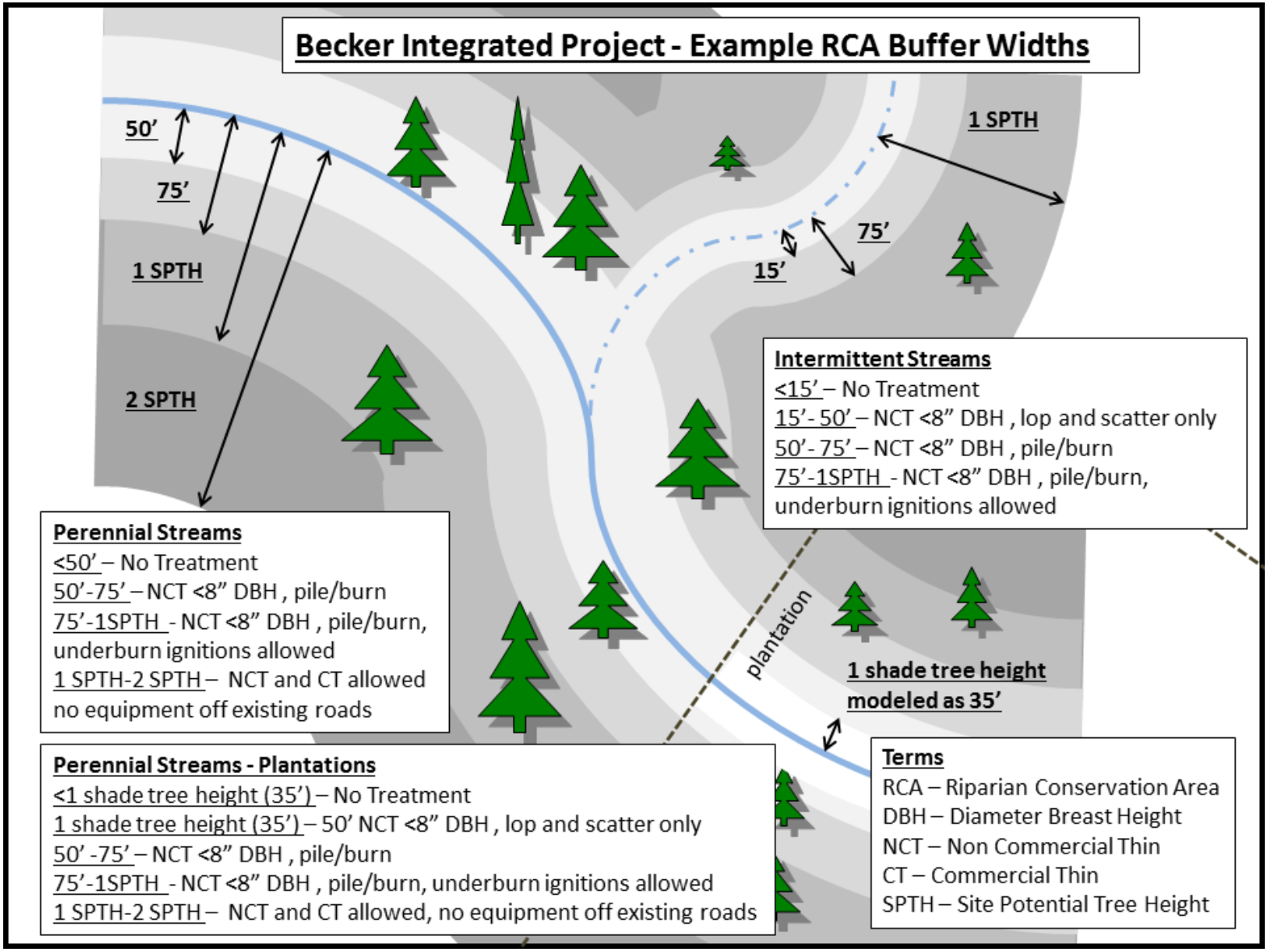

Figure 2. Plan view of Riparian Conservation Area treatment distances for all vegetation and fuels treatments on both perennial and intermittent streams

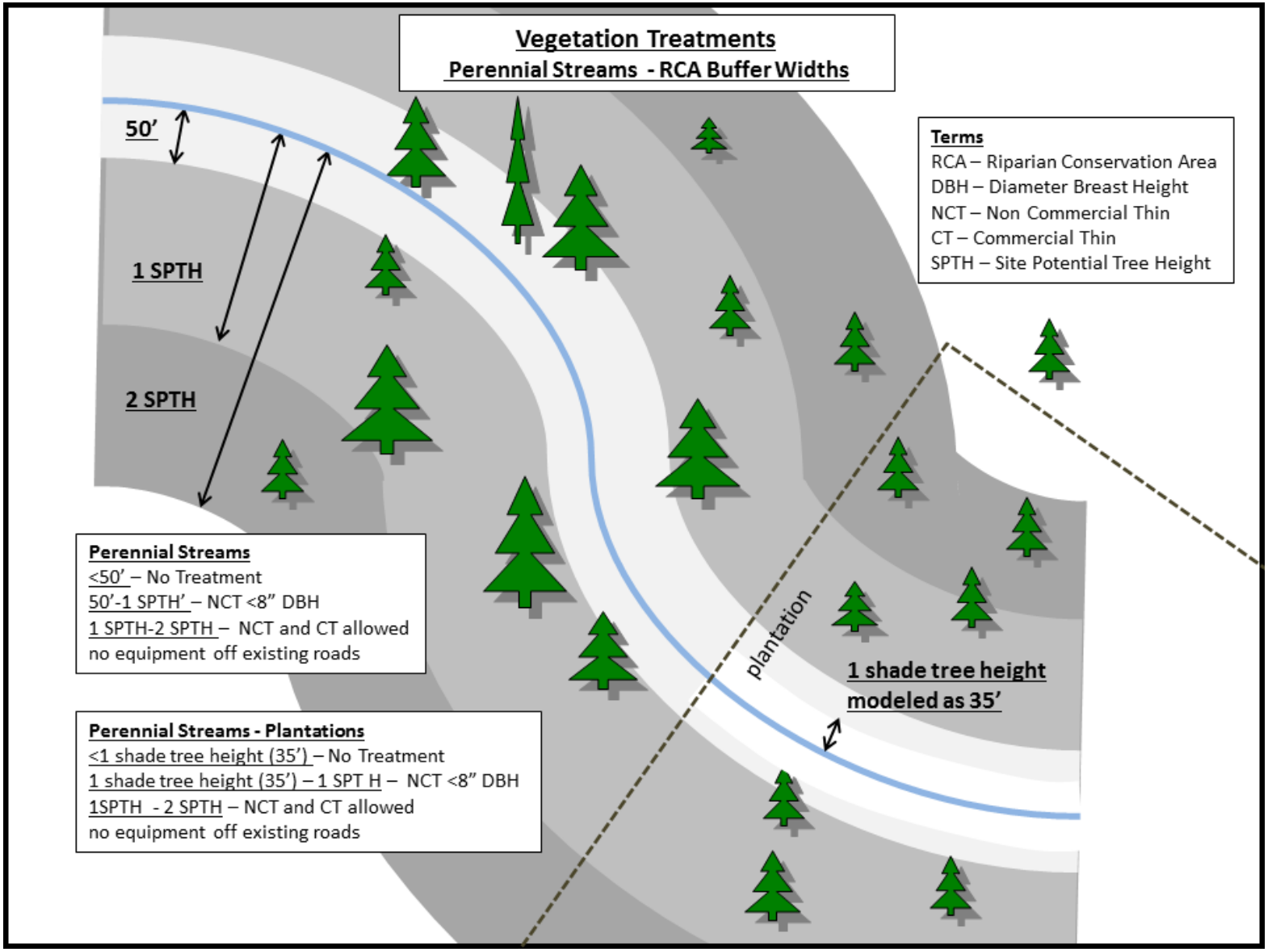

Figure 3. Plan view of Riparian Conservation Area treatment distances for all vegetation treatments along perennial streams

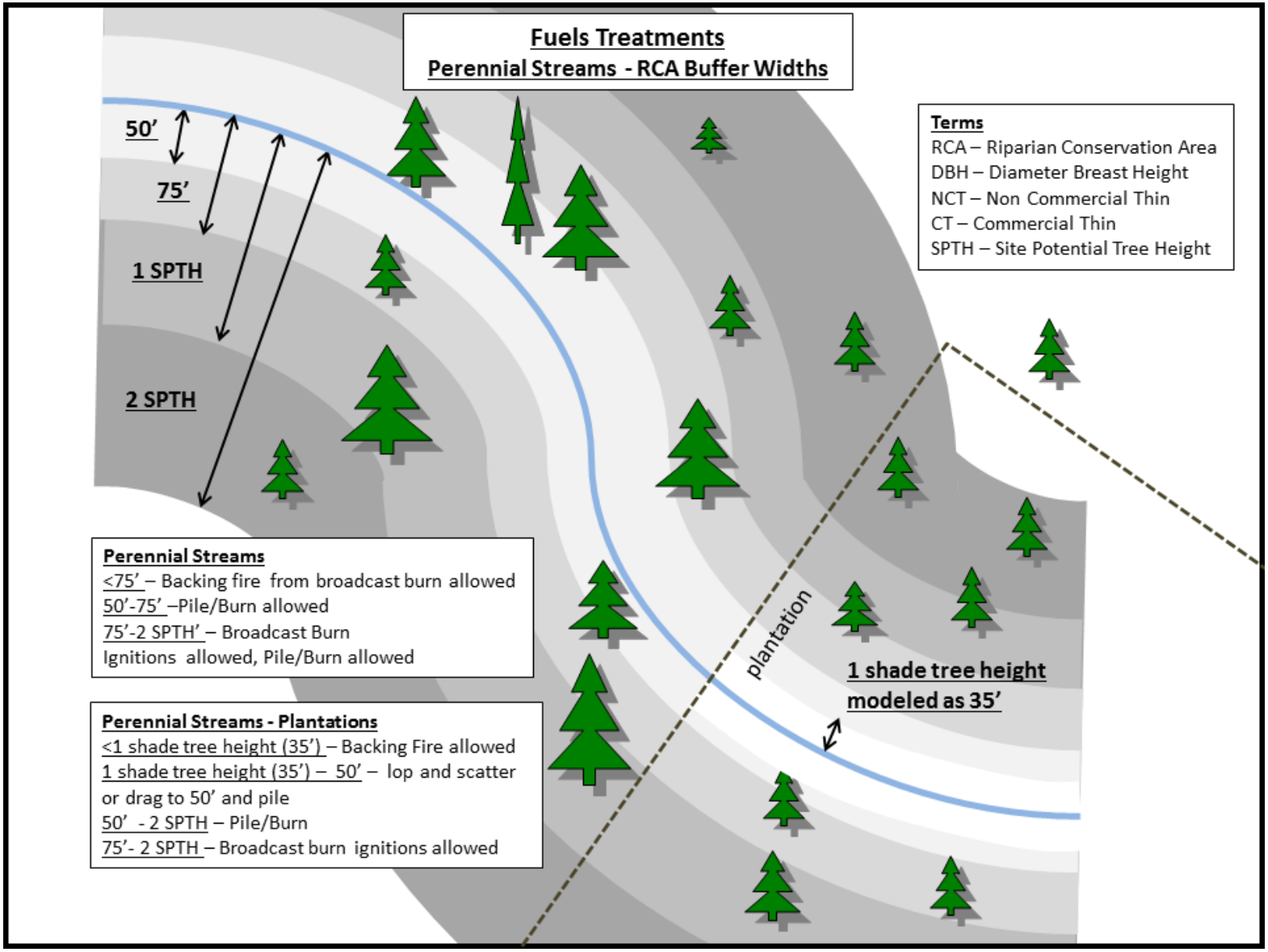

Figure 4. Plan view of Riparian Conservation Area treatment distances for all fuels treatments along perennial streams

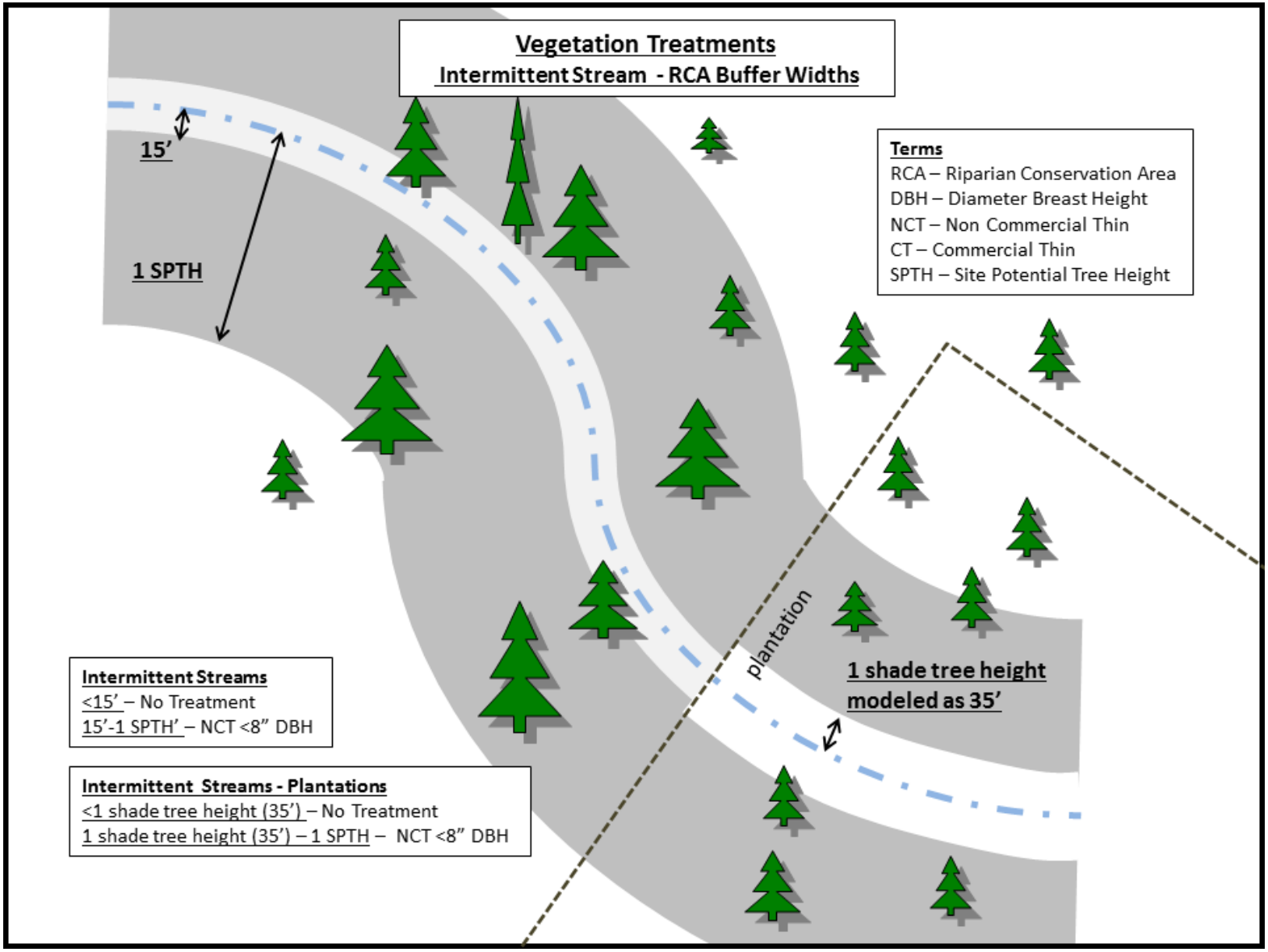

Figure 5. Plan view of Riparian Conservation Area treatment distances for all vegetation treatments along intermittent streams

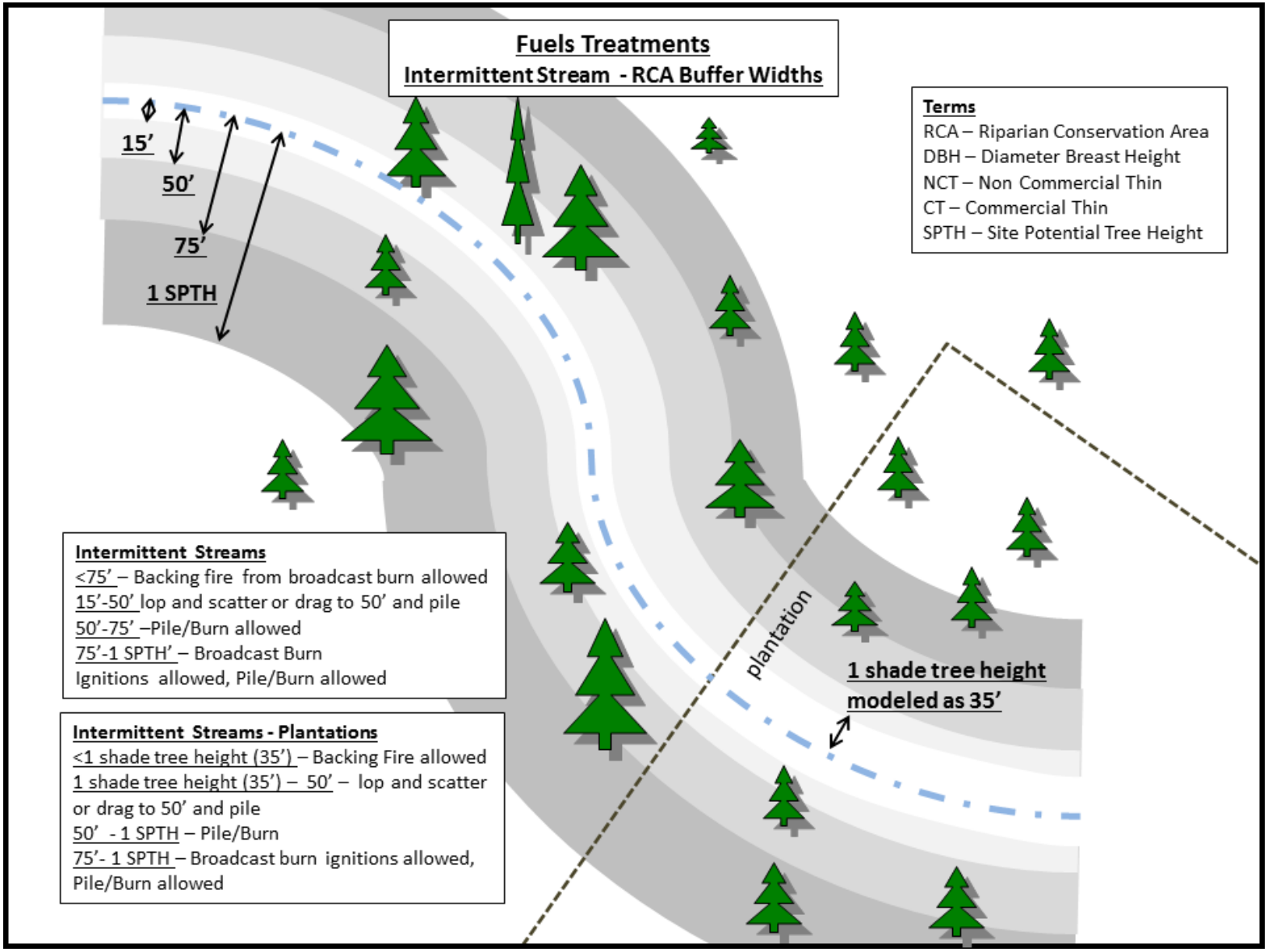

Figure 6. Plan view of Riparian Conservation Area treatment distances for all fuels treatments along intermittent streams

Appendix D:

Analysis for Detrimental Soil Disturbance and Total Soil Resource Commitment

Becker Integrated Resource Project

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Detrimental Disturbance (USDA Forest Service 2010a, p. GL-10)

Detrimental soil disturbance (DD) is the alteration of natural soil characteristics resulting in immediate or prolonged loss of soil productivity and soil-hydrologic conditions. At least 85 percent of an activity area should be in a non-detrimentally disturbed condition. Stated another way, no more than 15 percent of an activity area should have detrimentally disturbed soil after the management activities are completed. DD can occur where soil has been displaced, compacted, puddled, or severely burned. Determination of DD excludes existing or planned classified transportation facilities, dedicated trails and landings, mining dumps or excavations, parking areas, developed campgrounds, and other dedicated facilities. However, the impacts of these actions are considered total soil resource commitment (TSRC—Section 1.10.2 and Attachment C). DD is represented by any or all of the four characteristics described below.

1. *Detrimental Soil Displacement*. Areas of 1 meter (m) by 1 m or larger exhibiting detrimentally displaced soil as described below:
    a. The loss of either 5 cm or half of humus-enriched top soil (A horizon), whichever is less
    b. The exceeding of the soil-loss tolerance value for the specific soil type
2. *Detrimental Soil Compaction*. Soil compaction is generally evaluated from 5–30 centimeters (cm) below the mineral soil surface. Specific depths for measurement depend upon soil type and management activities. Detrimental soil compaction is increased soil density (weight per unit volume) and strength that hampers root growth, reduces soil aeration, and inhibits water movement. Measurements of potential detrimental soil compaction may be qualitative or quantitative. Refer to the Region 4 Soil Management Manual for methods related to measuring and determining soil compaction (R4 FSM 2500-2011-1, March 14, 2011).
3. *Detrimental Soil Puddling*. Puddling is generally evaluated at the mineral soil surface. Visual indicators of detrimental puddling include clearly identifiable ruts with berms in mineral soil or in an O horizon of an organic soil. Detrimental puddling may occur in conjunction with detrimental compaction. The guidelines for soil compaction are to be used when this occurs. Detrimentally puddled soils are not always detrimentally compacted. Infiltration and permeability are affected by detrimental soil puddling. Puddling can also alter local groundwater hydrology and wetland function, and provide conduits for runoff.
4. *Severely Burned Soil*. Severely burned soil applies to prescribed fire and natural fires that are managed for resource benefits. Severely burned soils are identified by ratings of fire severity and the effects to the soil. A severely burned soil is generally soil that is within a High Fire Severity burn as defined by the Forest Service Burned Area Emergency Rehabilitation Program (FSH 2509.13 and Debano et al. 1998). An example of a High Fire Severity rating is provided below. Soil humus losses, structural changes, hydrophobic characteristics, and sterilization are potential effects of severely burned soil.

Example of High Fire Severity Rating—High soil heating or deep ground char occurs where the duff is completely consumed and the top of the mineral soil is visibly reddish or orange on severely burned sites. Color of the soil below 1 cm is darker or charred from organic material

that has heated or burned. The char layer can extend to a depth of 10 cm or more. Logs can be consumed or deeply charred, and deep ground char can occur under slash concentrations or under burned logs. Soil textures in the surface layers are changed, and fusion evidenced by clinkers can be observed locally. All shrub stems are consumed and only the charred remains of large stubs may be visible. Soil temperatures at 1 cm are greater than 250 °C. Lethal temperatures for soil organisms occur down to depths of 9 to 16 cm.

Standards for detrimentally disturbed soils are to be applied to existing or planned activities that are available for multiple uses. These standards do not apply to areas with dedicated uses such as mines, ski areas, campgrounds, and administrative sites.

Activity Area (USDA Forest Service 2010a, p. GL 1)

Activity Area - The smallest logical land area where the effect being analyzed or monitored is expected to occur. The area may vary in size depending on the effect being analyzed or monitored because some effects are quite localized and some occur across landscapes. *Activity areas* are to be specifically described when used in planning and project implementation documents.

Detrimental Disturbance – The *activity area* is the specific area where proposed actions may have detrimental soil impacts such as harvest units within a timber sale area, an individual pasture unit within a grazing allotment, or a burn block within a prescribed burn project area. Existing designated uses, such as classified roads and trails, developed campgrounds, and buildings, are not considered detrimental disturbance within an *activity area*. See the definition for detrimental disturbance for more information.

Becker Integrated Resource Project - Detrimental Soil Disturbance Analysis

At any time, soil conditions across landscapes lie somewhere within the spectrum of:

undisturbed <-> disturbed <-> detrimentally disturbed (DD) <-> total soil resource commitment (TSRC).

The “undisturbed” and “disturbed” categories best represent the majority of soil conditions for forested and non-forested settings. Either through natural processes or land management activities, the “disturbed” soils have not had their physical and biological properties impacted to a level where soil quality impairs productivity.

For this analysis, the *activity area* used to assess potential detrimental disturbance impacts to soils is defined as the individual forested stand delineated for proposed commercial timber harvest, and the prescribed fire areas delineated for natural or activity fuels treatments. These particular areas are delineated for DD analysis to capture the planned activities having the greatest likelihood to detrimentally impair soil quality. This delineation is consistent with the Forest Plan (USDA Forest Service 2010a, p. GL 1).

The effects to soils from the suite of activities proposed in the Becker Integrated Resource Project range across the soil disturbance spectrum (Figure 1). Noncommercial thinning is not represented in Figure 1 as this activity is accomplished with hand tools without the use of mechanized, ground-based equipment. Although no direct ground disturbance is expected from noncommercial thinning, varying levels of soil erosion due to loss of surface soil cover can result from the subsequent implementation of prescribed fire to treat increased fuel accumulations.

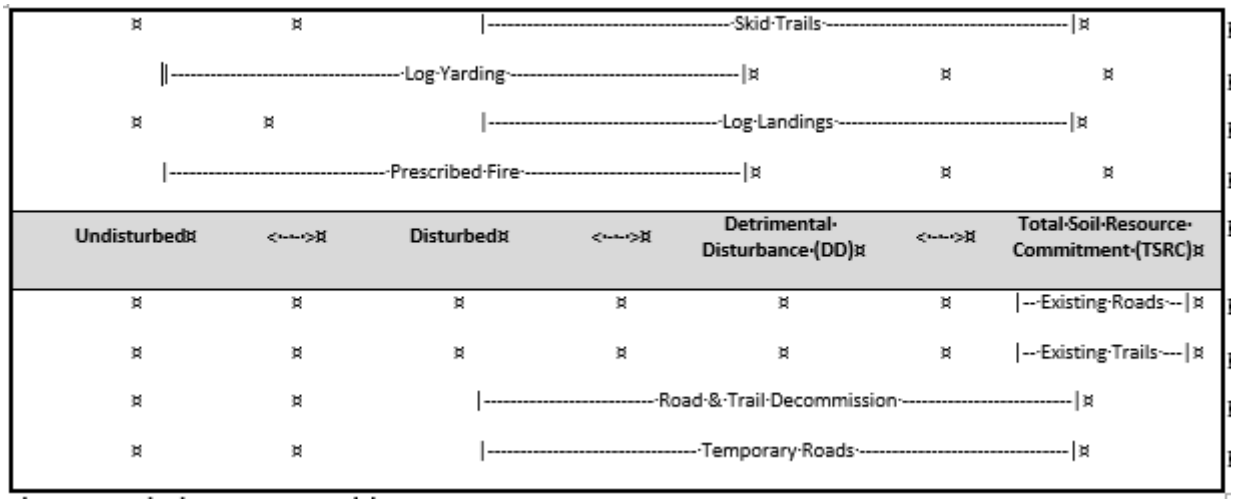

Figure 1. Soil Disturbance by Activity

Detrimental disturbance associated with travel routes is primarily the result of decommissioning activities. Initially these route features are classified as total soil resource commitment (TSRC), and when decommissioned, the objective is to convert them to a physically "disturbed" condition to support the chemical and biological processes important for soil development. Ultimately, there will be fragmented segments or sections of DD which will residually ameliorate over time. These DD segments and their rate of recovery are difficult to quantify without intensive, expensive post-treatment monitoring over multiple years.

Effects Analysis

The dominant land type map unit underlying each activity area was defined in the GIS, and local bio-physical attributes (vegetation, near-surface and surface soils, slope, and aspect) were used to identify the dominant soil family and the inherent soil capabilities and limitations (Attachment A).

Direct effects of DD from timber harvest and prescribed fire were estimated using the soil erosion component of the BOISED sediment prediction model (Reinig et al. 1991). Soil erosion calculated by BOISED incorrectly assumes 100 percent of an activity area is "disturbed". Using professional judgment based on personal experience using BOISED and knowledge of effects from land management activities on soil and water resources, and in consultation with other watershed specialists, actual "disturbance" is generally less than 50 percent and detrimental impacts range from 0 to 30 percent (Reeves et al. 2011). To address the differences in disturbance between modeled and expected outcomes, coefficients were incorporated so soil erosion estimates were 50 percent or less of each activity area. Some DD recovers in the temporary time frame, and with active restoration and passive recovery the majority of the direct effects ameliorate over short term (up to 15 years) (Froehlich et al 1983, Cerise et al 2013).

Existing conditions as well as direct/indirect and cumulative effects of proposed activities on DD were estimated for each of the individual treatment units (i.e., activity areas) (Table 1,Table 2,Table 3, and Table 4). The existing conditions and direct effects from the proposed activities are estimates based on data analysis and professional judgment of the soils specialist. The applied professional judgment is derived from prior analysis completed for similar management activities and review of implemented projects.

Existing Conditions

Using GIS and field data collected using the Soil Health Assessment (SHA) (Freeling 2006), existing conditions for DD are estimated to range from 0 to 5 percent. These estimates were derived by evaluating locations where ground disturbing treatments proposed under the Becker Integrated Resource Project overlap residual DD from prior or ongoing activities - specifically past timber harvest, livestock grazing, and dispersed recreation/fuelwood gathering. Where residual DD from past timber harvest and other ground disturbing activities coincide with activity areas for proposed treatments, existing conditions for DD was estimated as a function log yarding methods used and time elapsed since disturbance. Detrimental disturbance from timber harvest activities implemented more than 21 years ago are considered recovered (Arnup 1998). The GIS analysis revealed limited occurrences where proposed treatment units overlap disturbances from past timber harvest. Where it occurs, harvest using tractor yarding accounts for about 2 percent of DD and harvest using skyline yarding accounts for roughly 1 percent. Effects of ongoing livestock grazing overlapping proposed treatment units are estimated at about 1 percent of DD. Impacts from dispersed recreation and fuelwood gathering are expected to occur only adjacent to travel routes open for public access and are estimated to be 1 percent or less.

Direct Effects and Indirect Effects

Direct effects for DD are presented as the percent increase of the proposed activity compared to the basic erosion rate for each activity area. Direct effects from commercial timber harvest and prescribed fire are displayed in Tables B-1 through B-4. Commercial timber harvest is estimated to cause DD ranging from 6.9 to 13.2 percent. Detrimental disturbance from prescribed fire ranges from 2.0 to 3.7 percent.

For commercial timber harvest (CTH), potential increases in soil erosion and incremental recovery from those effects are a function of yarding methods and the inherent soil properties for the dominant land type of the activity area. Detrimental soil compaction from commercial timber harvest is considered a direct effect evaluated under TSRC. The use of tracked or wheeled ground-based equipment causes higher levels of detrimental soil displacement than helicopter yarding. The recovery rate of detrimental impacts also correlates to the intensity of the disturbance. Bare ground and subsequent erosion from helicopter yarding—if it actually occurs—are temporary impacts that recover with 1 to 3 years. Disturbances from ground-based yarding generally require active restoration to control erosion (slashing and seeding) and recover at slower rates; residual impacts can exist for 15 to 20 years.

When implementing prescribed fire, timing and locations of fire ignitions are adjusted to achieve desirable burning conditions and mitigate the potential for severely burned soils. Burning large accumulations of treatment fuels can occur when duff, soil, and live fuel have adequate moisture levels to minimize soil heating thereby reducing fire residence time and impacts to soils. Fuels burning at moderate and high intensities can result in undesirable soil impacts. This analysis includes estimates for detrimental disturbance due to severely burned soil conditions in the activity areas with increased fuel concentrations from commercial timber harvest slash and non-commercial thinning. Where mechanical treatments do not precede prescribed fire and do not change the existing fuel conditions, moderate intensity fire and low soil burn severity with minimal detrimental disturbance is expected. When burning within prescription, recovery of bare ground and localized erosion is expected to take 1 to 3 years.

Cumulative Effects

The estimates for cumulative DD in Table 1, Table 2, Table 3, and Table 4 (Year 10) consider three components: (1) continued impacts from ongoing activities (livestock grazing and dispersed recreation); (2) recovery of the residual DD from past timber harvest that currently contributes to the existing condition; and (3) active restoration and passive, natural improvement of management-related impacts from the proposed activities. The DD from proposed commercial timber harvest would recover mostly to a "disturbed" condition within 10 years. Residual detrimental impacts will occur intermittently along primary skid trails that have been restored from TSRC, and will likely exist at decreasing rates for up to 20 years until soil properties passively recover to achieve some level of productivity. Beyond the 5-year period, any cumulative DD from prescribed fire would be expected to decrease to zero. In the absence of permitted land management activities causing additional ground disturbance, detrimental disturbance will exist within some activity areas from ongoing livestock grazing and dispersed recreation.

Description of Fields in Tables B.1, B.2, and B.3.

Unit ID: Delineated area for proposed commercial timber harvest and prescribed fire (corresponds to *activity area*).

Acres: Size of unit.

Existing Condition: Percent DD, as a function of past or ongoing disturbances overlapping that specific unit.

Harvest System: Method for yarding logs as part of commercial timber harvest activities.

Direct Effect—CTH: DD impacts attributable specifically to commercial timber harvest.

Direct Effect—Year 1: Existing condition plus increase in DD from commercial timber harvest.

Direct Effect—Year 2: Existing condition plus direct effects, minus recovery in DD from active restoration of implemented commercial timber harvest treatments.

Direct Effect—Rx Fire: DD impacts attributed specifically to prescribed fire.

Direct Effect—Year 3-5: Existing condition plus a reduced level of DD associated with active restoration of implemented commercial timber harvest treatments, plus increased DD attributed specifically to prescribed fire.

Cumulative Effect—Year 5: Existing condition plus a reduced level of DD associated with active restoration of implemented commercial timber harvest treatments. Impacts from prescribed fire are expected to have recovered to pre-activity conditions.

Cumulative Effect—Year 10: Existing condition plus a reduced level of DD associated with recovery of residual existing disturbance (no decrease in impacts from livestock grazing and dispersed recreation) and active restoration and passive recovery of implemented commercial timber harvest treatments. Impacts from prescribed fire are expected to have recovered to pre-activity conditions.

Table 1. Percent Detrimental Disturbance—Alternative B (Proposed Action) and Alternative C

Unit ID	Acres	Existing DD	Harvest System	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035020510A	157.0	2.0	Tractor	13.1	15.1	11.8	3.7	12.2	8.5	4.3
0035020512	48.6	0.0	Tractor	6.9	6.9	5.2	2.0	5.4	3.5	1.7
0035020514	58.2	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020516	19.3	1.0	Tractor	13.2	14.2	10.9	3.7	11.3	7.6	3.8
0035020517B	47.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020518	11.8	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020521	50.1	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020525	76.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020527	119.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020529	16.5	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020531	20.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020537A	5.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020537B	105.5	3.0	Tractor	13.2	16.2	12.9	3.7	13.3	9.6	4.8
0035020538	153.6	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020539B	70.7	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020540	25.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020541	14.5	0.0	Tractor	13.2	13.2	9.9	3.7	10.3	6.6	3.3
0035020542	28.3	0.0	Tractor	6.9	6.9	5.2	2.0	5.4	3.5	1.7
0035020545	43.9	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020548	56.1	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020551	49.0	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020552	100.9	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020553	11.9	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020572A	33.8	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020572B	71.2	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020574A	68.6	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020575A	36.1	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020575B	35.1	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020576	112.4	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020577	6.9	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035020578B	21.4	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020583	24.6	0.0	Tractor	6.9	6.9	5.2	2.0	5.4	3.5	1.7
0035020589	80.4	0.0	PCT	0.0	0.0	0.0	2.1	2.1	0.0	0.0
0035020592	16.5	0.0	PCT	0.0	0.0	0.0	2.1	2.1	0.0	0.0
0035020597	7.6	0.0	Tractor	7.3	7.3	5.5	2.1	5.7	3.7	1.8
0035020607	33.9	0.0	Tractor	6.9	6.9	5.2	2.0	5.4	3.5	1.7
0035020609A	31.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020624	20.4	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035020634	27.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020644	34.5	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6

Unit ID	Acres	Existing DD	Harvest System	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035020664	72.3	3.0	PCT	0.0	3.0	3.0	3.7	6.7	3.0	1.5
0035020665A	27.7	2.0	PCT	0.0	2.0	2.0	2.1	4.1	2.0	1.0
0035020665B	13.7	1.0	PCT	0.0	1.0	1.0	2.1	3.1	1.0	0.5
0035020677	98.7	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035020681	111.0	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035020688	132.5	0.0	Tractor	6.9	6.9	5.2	2.0	5.4	3.5	1.7
0035020689	88.8	0.0	Tractor	6.9	6.9	5.2	2.0	5.4	3.5	1.7
0035021019	51.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021027	10.0	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035030506	18.7	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035030608	103.1	2.0	PCT	0.0	2.0	2.0	3.0	5.0	2.0	1.0
0035030618	96.6	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030651	13.8	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035030685	26.9	4.0	Tractor	7.3	11.3	9.5	2.1	9.7	7.7	3.8
0035030688	57.0	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030689	17.3	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035040502	128.2	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040505	7.6	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040512A	54.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040513B	35.0	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040513C	5.1	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040514	36.1	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040515	22.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040516	59.3	4.0	Tractor	7.6	11.6	9.7	2.1	9.9	7.8	3.9
0035040518	36.1	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040520	52.5	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040523	23.7	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040526	31.9	4.0	Tractor	7.6	11.6	9.7	2.1	9.9	7.8	3.9
0035040541	59.5	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040542	32.5	3.0	Tractor	13.1	16.1	12.8	3.7	13.2	9.5	4.8
0035040555A	77.4	4.0	Tractor	6.9	10.9	9.2	2.0	9.4	7.5	3.7
0035040556B	53.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040611	81.2	1.0	Tractor	13.1	14.1	10.8	3.7	11.2	7.5	3.8
0035040614	33.7	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040704	12.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3

Table 2 Percent Detrimental Disturbance – Alternative D

Unit ID	Acres	Existing DD	Harvest System	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035020510	157.0	2.0	Tractor	13.1	15.1	11.8	3.7	12.2	8.5	4.3
0035020514	58.2	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020516	19.3	1.0	Tractor	13.2	14.2	10.9	3.7	11.3	7.6	3.8
0035020517	47.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020518	11.8	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020521	50.1	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020525	76.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020527	119.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020529	16.5	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020531	20.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020532	34.5	3.0	Tractor	10.6	13.6	10.9	3.0	11.3	8.3	4.1
0035020537	111.4	4.0	Tractor	13.2	17.2	13.9	3.7	14.3	10.6	5.3
0035020538	153.6	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020539	70.7	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020540	25.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020578	21.4	2.0	Tractor	6.9	8.9	7.2	2.0	7.4	5.5	2.7
0035020609	31.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020624	20.4	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035020634	27.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020664	72.3	3.0	PCT	0.0	3.0	3.0	3.7	6.7	3.0	1.5
0035020665	16.5	3.0	PCT	0.0	3.0	3.0	2.1	5.1	3.0	1.5
0035021003	49.0	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021005	56.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021008	43.9	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021014	28.3	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021016	100.9	3.0	Tractor	10.6	13.6	10.9	3.0	11.3	8.3	4.1
0035021018	14.5	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035021019	51.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021027	10.0	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021029	33.9	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021030	11.9	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021043	24.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021044	132.5	2.0	Tractor	6.9	8.9	7.2	2.0	7.4	5.5	2.7
0035021049	98.7	1.0	PCT	0.0	1.0	1.0	3.0	4.0	1.0	0.5
0035021052	112.4	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035021054	88.8	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021055	6.9	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021060	20.4	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035021065	68.6	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021067	111.0	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0

Unit ID	Acres	Existing DD	Harvest System	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035021068	80.4	2.0	PCT	0.0	2.0	2.0	2.1	4.1	2.0	1.0
0035021076	16.5	0.0	PCT	0.0	0.0	0.0	2.1	2.1	0.0	0.0
0035021079	98.7	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035021082	13.7	1.0	Tractor	7.3	8.3	6.5	2.1	6.7	4.7	2.3
0035021512	48.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035030506	80.4	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035030608	103.1	2.0	PCT	0.0	2.0	2.0	3.0	5.0	2.0	1.0
0035030618	96.6	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030651	13.8	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035030685	26.9	4.0	Tractor	7.3	11.3	9.5	2.1	9.7	7.7	3.8
0035030688	57.0	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030689	17.3	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035040502	128.2	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040503	103.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040504	13.1	3.0	Tractor	10.6	13.6	10.9	3.0	11.3	8.3	4.1
0035040505	7.6	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040506	15.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040507	28.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040508	19.9	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040509	3.2	2.0	Tractor	13.1	15.1	11.8	3.7	12.2	8.5	4.3
0035040512	54.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040513	40.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040514	36.1	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040515	22.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040516	59.3	4.0	Tractor	7.6	11.6	9.7	2.1	9.9	7.8	3.9
0035040518	36.1	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040520	52.5	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040523	23.7	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040526	31.9	4.0	Tractor	7.6	11.6	9.7	2.1	9.9	7.8	3.9
0035040541	59.5	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040542	32.5	3.0	Tractor	13.1	16.1	12.8	3.7	13.2	9.5	4.8
0035040555	77.4	4.0	Tractor	6.9	10.9	9.2	2.0	9.4	7.5	3.7
0035040556	53.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040611	81.2	1.0	Tractor	13.1	14.1	10.8	3.7	11.2	7.5	3.8
0035040614	33.7	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040704	12.6	4.0	Tractor	6.9	10.9	9.2	1.9	9.4	7.5	3.7
0035050556	7.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035050558	45.7	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6

Table 3. Percent Detrimental Disturbance – Alternative E

Unit ID	Acres	Existing DD	Harvest	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035020510	157.0	2.0	Helicopter	4.3	6.3	5.2	3.7	7.8	4.1	2.1
0035020514	58.2	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035020516	19.3	1.0	Tractor	13.2	14.2	10.9	3.7	11.3	7.6	3.8
0035020517	47.6	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035020518	11.8	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035020521	50.1	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035020525	76.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020527	119.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020529	16.5	1.0	Helicopter	3.4	4.4	3.6	3.0	5.7	2.7	1.4
0035020531	20.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020532	34.5	3.0	Tractor	10.6	13.6	10.9	3.0	11.3	8.3	4.1
0035020537	111.4	4.0	Tractor	13.2	17.2	13.9	3.7	14.3	10.6	5.3
0035020538	153.6	1.0	Helicopter	3.4	4.4	3.6	3.0	5.7	2.7	1.4
0035020539	70.7	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035020540	25.1	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035020578	21.4	2.0	Tractor	6.9	8.9	7.2	2.0	7.4	5.5	2.7
0035020609	31.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020624	20.4	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035020634	27.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020664	72.3	3.0	PCT	0.0	3.0	3.0	3.7	6.7	3.0	1.5
0035020665	41.4	3.0	PCT	0.0	3.0	3.0	2.1	5.1	3.0	1.5
0035021003	49.0	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035021005	56.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021008	43.9	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035021014	28.3	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021016	100.9	3.0	Tractor	10.6	13.6	10.9	3.0	11.3	8.3	4.1
0035021018	14.5	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035021019	51.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021027	10.0	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021029	33.9	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035021030	11.9	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021043	24.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021044	132.5	2.0	Helicopter	2.3	4.3	3.7	2.0	5.1	3.1	1.6
0035021049	98.7	1.0	PCT	0.0	1.0	1.0	3.0	4.0	1.0	0.5
0035021052	112.4	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035021054	88.8	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035021055	6.9	0.0	Helicopter	3.4	3.4	2.6	3.0	4.7	1.7	0.9
0035021060	71.2	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021065	68.6	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021067	111.0	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0

Unit ID	Acres	Existing DD	Harvest	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035021068	80.4	2.0	PCT	0.0	2.0	2.0	2.1	4.1	2.0	1.0
0035021076	16.5	0.0	PCT	0.0	0.0	0.0	2.1	2.1	0.0	0.0
0035021079	105.0	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035021082	7.6	1.0	Tractor	7.3	8.3	6.5	2.1	6.7	4.7	2.3
0035021512	48.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035030506	18.7	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035030608	103.1	2.0	PCT	0.0	2.0	2.0	3.0	5.0	2.0	1.0
0035030618	96.6	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030651	13.8	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035030685	26.9	4.0	Tractor	7.3	11.3	9.5	2.1	9.7	7.7	3.8
0035030688	57.0	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030689	17.3	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035040502	128.2	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040505	7.6	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040512	54.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040513	40.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040514	36.1	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040515	22.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040516	59.3	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040518	36.1	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040520	52.5	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040523	23.7	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040526	31.9	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040541	59.5	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040542	32.5	3.0	Helicopter	4.3	7.3	6.2	3.7	8.8	5.1	2.6
0035040555	77.4	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040556	53.9	1.0	Helicopter	3.4	4.4	3.6	3.0	5.7	2.7	1.4
0035040611	81.2	1.0	Helicopter	4.3	5.3	4.2	3.7	6.8	3.1	1.6
0035040614	33.7	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040704	12.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3

Table 4. Percent Detrimental Disturbance – Alternative F

Unit ID	Acres	Existing DD	Harvest	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035020510	157.0	2.0	Helicopter	4.3	6.3	5.2	3.7	7.8	4.1	2.1
0035020514	58.2	1.0	Helicopter	2.3	3.3	2.7	2.0	4.1	2.1	1.1
0035020516	19.3	1.0	Tractor	13.2	14.2	10.9	3.7	11.3	7.6	3.8
0035020517	47.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020518	11.8	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020521	50.1	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035020525	76.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020527	119.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020529	16.5	1.0	Helicopter	3.4	4.4	3.6	3.0	5.7	2.7	1.4
0035020531	20.3	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020532	34.5	3.0	Tractor	10.6	13.6	10.9	3.0	11.3	8.3	4.1
0035020537	111.4	4.0	Tractor	13.2	17.2	13.9	3.7	14.3	10.6	5.3
0035020538	153.6	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035020539	70.7	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020540	25.1	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035020578	21.4	2.0	Tractor	6.9	8.9	7.2	2.0	7.4	5.5	2.7
0035020609	31.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020624	20.4	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0
0035020634	27.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035020664	72.3	3.0	PCT	0.0	3.0	3.0	3.7	6.7	3.0	1.5
0035020665	41.4	3.0	PCT	0.0	3.0	3.0	2.1	5.1	3.0	1.5
0035021003	49.0	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035021005	56.1	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035021008	43.9	2.0	Helicopter	3.4	5.4	4.6	3.0	6.7	3.7	1.9
0035021014	28.3	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021016	100.9	3.0	Helicopter	3.4	6.4	5.6	3.0	7.7	4.7	2.4
0035021018	14.5	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035021019	51.2	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021027	10.0	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021029	33.9	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021030	11.9	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035021043	24.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021044	132.5	2.0	Tractor	6.9	8.9	7.2	2.0	7.4	5.5	2.7
0035021049	98.7	1.0	PCT	0.0	1.0	1.0	3.0	4.0	1.0	0.5
0035021052	112.4	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035021054	88.8	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035021055	6.9	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021060	71.2	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021065	68.6	0.0	Tractor	10.6	10.6	7.9	3.0	8.3	5.3	2.6
0035021067	111.0	0.0	PCT	0.0	0.0	0.0	3.0	3.0	0.0	0.0

Unit ID	Acres	Existing DD	Harvest	Direct Effect		Year 2	Direct Effect		Cumulative Effects	
				CTH	Year 1		Rx Fire	Year 3-5	Year 5	Year 10
0035021068	80.4	2.0	PCT	0.0	2.0	2.0	2.1	4.1	2.0	1.0
0035021076	16.5	0.0	PCT	0.0	0.0	0.0	2.1	2.1	0.0	0.0
0035021079	105.0	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035021082	7.6	1.0	Tractor	7.3	8.3	6.5	2.1	6.7	4.7	2.3
0035021512	48.6	1.0	Tractor	6.9	7.9	6.2	2.0	6.4	4.5	2.2
0035030506	18.7	2.0	Tractor	13.2	15.2	11.9	3.7	12.3	8.6	4.3
0035030608	103.1	2.0	PCT	0.0	2.0	2.0	3.0	5.0	2.0	1.0
0035030618	96.6	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030651	13.8	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035030685	26.9	4.0	Tractor	7.3	11.3	9.5	2.1	9.7	7.7	3.8
0035030688	57.0	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035030689	17.3	4.0	PCT	0.0	4.0	4.0	2.1	6.1	4.0	2.0
0035040502	128.2	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040505	7.6	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040512	54.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040513	40.1	2.0	Tractor	10.6	12.6	9.9	3.0	10.3	7.3	3.6
0035040514	36.1	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040515	22.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040516	59.3	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040518	36.1	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040520	52.5	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040523	23.7	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3
0035040526	31.9	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040541	59.5	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040542	32.5	3.0	Tractor	13.1	16.1	12.8	3.7	13.2	9.5	4.8
0035040555	77.4	4.0	Tractor	10.6	14.6	11.9	3.0	12.3	9.3	4.6
0035040556	53.9	1.0	Tractor	10.6	11.6	8.9	3.0	9.3	6.3	3.1
0035040611	81.2	1.0	Tractor	13.1	14.1	10.8	3.7	11.2	7.5	3.8
0035040614	33.7	5.0	Tractor	13.1	18.1	14.8	3.7	15.2	11.5	5.8
0035040704	12.6	4.0	Tractor	13.1	17.1	13.8	3.7	14.2	10.5	5.3

Total Soil Resource Commitment (TSRC) (USDA Forest Service 2010a, p. GL-50)

TSRC is the conversion of a productive site to an essentially non-productive site for a period of more than 50 years. Examples include classified or unclassified roads, inadequately restored haul roads, designated skid roads, landing areas, parking lots, mining dumps or excavations, dedicated trails (including skid trails), developed campgrounds, other dedicated facilities, and some stock driveways. Productivity on these areas ranges from 0 to 40 percent of natural.

Standards for TSRC are to be applied to existing or planned activities that are available for multiple uses. These standards do not apply to areas with dedicated uses such as mines, ski areas, campgrounds, and administrative sites.

Activity Area (USDA Forest Service 2010a, p. GL-1)

Activity Area - The smallest logical land area where the effect being analyzed or monitored is expected to occur. The area may vary in size depending on the effect being analyzed or monitored because some effects are quite localized and some occur across landscapes. *Activity areas* are to be specifically described when used in planning and project implementation documents.

Total Soil Resource Commitment – Effects are generally measured across an all-inclusive activity area, like a timber sale area, a prescribed burn area, or a grazing allotment, where effects to soil commitment could occur or are occurring. Effects include both proposed actions and existing uses for management actions including roads (classified and non-classified), dedicated trails, and landings. TSRC resulting from administrative sites, parking lots, ski areas, and mine excavations are evaluated as part of existing conditions to provide context of soil quality at larger scale (e.g., subwatershed). See the definition for total soil resource commitment for more information.

The *activity area* for estimating TSRC is the 19,327 acre project area, as activities that include roads, trails, and vegetation management are distributed across the larger area. This delineation is consistent with the Forest Plan guidance (USDA Forest Service 2010a, p. GL-1).

Becker Integrated Resource Project - Total Soil Resource Commitment (TSRC) Analysis

Project GIS data and field data from the Soil Health Assessment (SHA) protocols (Attachment E) were evaluated to identify areas of TSRC. The greatest areas of TSRC are associated with roads, which includes the total width of the road prism from the top of the cut slope to the bottom of the fill slope. Within the Becker Integrated Resource Project area there are about 200 miles of existing roads and 20 miles of non-motorized recreation trails. Included in the total road miles are 8.4 miles of Idaho State Highway 21 and 45 miles of known unauthorized routes on National Forest System (NFS) lands. There are about 3.6 acres of TSRC per mile of road on average, a number derived from the disturbed width attribute used in the BOISED Sediment Yield Prediction model (Reinig et al. 1991). Developed recreation trails are also considered TSRC and average 1.5 acres per mile of trail.

Other isolated locations having TSRC are scattered throughout the project area and approach 97 acres cumulatively. These numerous small sites primarily consist of past timber harvest landings, developed recreation sites, or dispersed recreation areas. The majority of the dispersed recreation areas occur in locations of log landings from prior timber harvest operations.

Existing Conditions

Existing TSRC for the Becker Integrated Resource Project area is estimated at 4.7 percent (Table 5). Travel routes (roads and trails) account for over 4 percent of the total TSRC. Localized disturbances from past and current livestock grazing, developed and dispersed recreation, off highway vehicle use, and personal fuelwood gathering account for the remaining 1 percent of TSRC.

Alternative A—Direct, Indirect, and Cumulative Effects

Alternative A would not be expected to change the current TSRC estimate of 4.7 percent for the activity area (Table 5). The current TSRC from existing roads, past harvest, campgrounds, trails, and dispersed recreation would persist over the short- and long-term.

Action Alternatives – Direct, Indirect, and Cumulative Effects

The action alternatives would increase total TSRC in the temporary and short-term timeframes to over 5 percent. A temporarily TSRC increase is expected from additional log landings and designated skid trails. Conversely, TSRC will decrease under all alternatives from road decommissioning and restoration of existing and proposed landings and primary skid trails (Design Features FH-6 and TH-5). Alternative E and Alternative F would realize greater decreases in road-related TSRC because they propose to decommission 2 and 1 additional miles of routes, respectively, over the other alternatives.

In the long-term, the cumulative TSRC would be less than 5 percent because of rehabilitation of log landings and primary skid trails and road decommissioning (Design Features FH-6 and TH-5). All action alternatives would decrease TSRC by about 1 percent when compared to Alternative A (No Action). (Table 5, Table 6, Table 7, Table 8, Table 9, and Table 10).

Table 5. Total Soil Resource Commitment - Alternative A

Total Soil Resource Commitment (TSRC) Calculations			**Existing Conditions - Alternative A**						
Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**			
NFS Roads (includes 8.4 mi SH21)	160.7		848,496	33	28,000,368	642.8			
NFS Road - New Construction			0	33	0	0.0			
NFS Road - Reconstruction/Relocation			0	33	0	0.0			
NFS Roads Decommissioned			0	33	0	0.0			
			0		0	0.0			
Other Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**			
UA Roads	45.0		237,600	25	5,940,000	136.4			
UA Roads Decommissioned			0	25	0	0.0			
Temporary Road Construction			0	25	0	0.0			
Trails	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**			
NFS Motorized Trails	0.0		0	17	0	0.0			
NFS Non-motorized Trails	19.5		102,960	9	926,640	21.3			

Table C-1. Total Soil Resource Commitment (TSRC) - Existing Conditions and Alternative A

Feature	**Acres**	**TSRC** (values in percent, as a function of 19,327 acre analysis area)						
		Existing	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Cumulative**
NFS Roads (includes 8.4 mi SH21)	642.8	3.33%	3.33%	3.33%	3.33%	3.33%	3.33%	3.33%
NFS Road - New Construction								
NFS Road - Reconstruction/Relocation								
NFS Roads Decommissioned								
UA Roads	136.4	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%
UA Roads Decommissioned								
Temporary Road Construction								
NFS Motorized Trails								
NFS Non-motorized Trails	21.3	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%
Recreation Disturbances (actual acres)	97.0	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Skid Trails (.5 mi/10 ac harvest)								
Landings (18 @ 0.5 acre)								
Livestock Disturbances (acres)	16.0	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
Analysis Area	**19,327**	**4.7%**	**4.7%**	**4.7%**	**4.7%**	**4.7%**	**4.7%**	**4.7%**

Table 6. Total Soil Resource Commitment - Alternative B

Total Soil Resource Commitment (TSRC) Calculations			Alternative B					
Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Roads (includes 8.4 mi SH21)	136.5		720,720	33	23,783,760	546.0		
NFS Road - New Construction	1.2		6,336	33	209,088	4.8		
NFS Road - Reconstruction/Relocation	4.8		25,344	33	836,352	19.2		
NFS Roads Decommissioned	-22.8		-120,384	33	-3,972,672	-91.2		
			0		0	0.0		
Other Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
UA Roads	28.7		151,536	25	3,788,400	87.0		
UA Roads Decommissioned	-8.1		-42,768	25	-1,069,200	-24.5		
Temporary Road Construction	3.2		16,896	25	422,400	9.7		
Trails	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Motorized Trails	4.2		22,176	17	376,992	8.7		
NFS Non-motorized Trails	44.5		234,960	9	2,114,640	48.5		

Table C-2. Total Soil Resource Commitment (TSRC) - Alternative B

Feature	Acres	TSRC (values in percent, as a function of 19,327 acre analysis area)						
		Existing	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Cumulative**
NFS Roads (includes 8.4 mi SH21)	546.0	3.33%	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%
NFS Road - New Construction	4.8		0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
NFS Road - Reconstruction/Relocation	19.2		0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
NFS Roads Decommissioned	-91.2		-0.47%	-0.47%	-0.47%	-0.47%	-0.47%	-0.47%
UA Roads	87.0	0.71%	0.45%	0.45%	0.45%	0.45%	0.45%	0.45%
UA Roads Decommissioned	-24.5		-0.13%	-0.13%	-0.13%	-0.13%	-0.13%	-0.13%
Temporary Road Construction	9.7		0.05%	0.05%	0.05%	0.05%	-0.05%	0.00%
NFS Motorized Trails	8.7		0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
NFS Non-motorized Trails	48.5	0.11%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Recreation Disturbances (actual acres)	103.0	0.50%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%
Skid Trails (.5 mi/10 ac harvest)	237.0		1.23%	1.23%	1.23%	1.23%	0.92%	0.31%
Landings	67.0		0.35%	0.35%	0.35%	0.35%	-0.35%	0.00%
Livestock Disturbances (acres)	16.0	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
Analysis Area	**19,327**	**4.7%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**4.2%**	**4.0%**

Table 7. Total Soil Resource Commitment - Alternative C

Total Soil Resource Commitment (TSRC) Calculations			**Alternative C**					
Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Roads (includes 8.4 mi SH21)	136.5		720,720	33	23,783,760	546.0		
NFS Road - New Construction	1.2		6,336	33	209,088	4.8		
NFS Road - Reconstruction/Relocation	4.8		25,344	33	836,352	19.2		
NFS Roads Decommissioned	-22.8		-120,384	33	-3,972,672	-91.2		
			0		0	0.0		
Other Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
UA Roads	28.7		151,536	25	3,788,400	87.0		
UA Roads Decommissioned	-8.1		-42,768	25	-1,069,200	-24.5		
Temporary Road Construction	3.2		16,896	25	422,400	9.7		
Trails	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Motorized Trails	4.0		21,120	17	359,040	8.2		
NFS Non-motorized Trails	44.5		234,960	9	2,114,640	48.5		

Table C-3. Total Soil Resource Commitment (TSRC) - Alternative C

Feature	**Acres**	**TSRC** (values in percent, as a function of 19,327 acre analysis area)						
		Existing	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Cumulative**
NFS Roads (includes 8.4 mi SH21)	546.0	3.33%	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%
NFS Road - New Construction	4.8		0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
NFS Road - Reconstruction/Relocation	19.2		0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
NFS Roads Decommissioned	-91.2		-0.47%	-0.47%	-0.47%	-0.47%	-0.47%	-0.47%
UA Roads	87.0	0.71%	0.45%	0.45%	0.45%	0.45%	0.45%	0.45%
UA Roads Decommissioned	-24.5		-0.13%	-0.13%	-0.13%	-0.13%	-0.13%	-0.13%
Temporary Road Construction	9.7		0.05%	0.05%	0.05%	0.05%	-0.05%	0.00%
NFS Motorized Trails	8.2		0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
NFS Non-motorized Trails	48.5	0.11%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Recreation Disturbances (actual acres)	103.0	0.50%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%
Skid Trails (.5 mi/10 ac harvest)	237.0		1.23%	1.23%	1.23%	1.23%	0.92%	0.31%
Landings (18 @ 0.5 acre)	68.0		0.35%	0.35%	0.35%	0.35%	-0.35%	0.00%
Livestock Disturbances (acres)	16.0	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
Analysis Area	**19,327**	**4.7%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**4.2%**	**4.0%**

Table 8. Total Soil Resource Commitment - Alternative D

Total Soil Resource Commitment (TSRC) Calculations			**Alternative D**					
Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Roads (includes 8.4 mi SH21)	136.5		720,720	33	23,783,760	546.0		
NFS Road - New Construction	1.2		6,336	33	209,088	4.8		
NFS Road - Reconstruction/Relocation	4.8		25,344	33	836,352	19.2		
NFS Roads Decommissioned	-22.8		-120,384	33	-3,972,672	-91.2		
			0		0	0.0		
Other Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
UA Roads	28.7		151,536	25	3,788,400	87.0		
UA Roads Decommissioned	-8.1		-42,768	25	-1,069,200	-24.5		
Temporary Road Construction	3.2		16,896	25	422,400	9.7		
Trails	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Motorized Trails	4.0		21,120	17	359,040	8.2		
NFS Non-motorized Trails	44.5		234,960	9	2,114,640	48.5		

Table C-4. Total Soil Resource Commitment (TSRC) - Alternative D

Feature	**Acres**	**TSRC** (values in percent, as a function of 19,327 acre analysis area)						
		Existing	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Cumulative**
NFS Roads (includes 8.4 mi SH21)	546.0	3.33%	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%
NFS Road - New Construction	4.8		0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
NFS Road - Reconstruction/Relocation	19.2		0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
NFS Roads Decommissioned	-91.2		-0.47%	-0.47%	-0.47%	-0.47%	-0.47%	-0.47%
UA Roads	87.0	0.71%	0.45%	0.45%	0.45%	0.45%	0.45%	0.45%
UA Roads Decommissioned	-24.5		-0.13%	-0.13%	-0.13%	-0.13%	-0.13%	-0.13%
Temporary Road Construction	9.7		0.05%	0.05%	0.05%	0.05%	-0.05%	0.00%
NFS Motorized Trails	8.2		0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
NFS Non-motorized Trails	48.5	0.11%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Recreation Disturbances (actual acres)	103.0	0.50%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%
Skid Trails (.5 mi/10 ac harvest)	251.0		1.30%	1.30%	1.30%	1.30%	0.97%	0.32%
Landings (18 @ 0.5 acre)	71.0		0.37%	0.37%	0.37%	0.37%	-0.37%	0.00%
Livestock Disturbances (acres)	16.0	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
Analysis Area	**19,327**	**4.7%**	**5.4%**	**5.4%**	**5.4%**	**5.4%**	**4.3%**	**4.0%**

Table 9. Total Soil Resource Commitment - Alternative E

Total Soil Resource Commitment (TSRC) Calculations			**Alternative E**					
Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Roads (includes 8.4 mi SH21)	133.6		705,408	33	23,278,464	534.4		
NFS Road - New Construction	1.2		6,336	33	209,088	4.8		
NFS Road - Reconstruction/Relocation	4.8		25,344	33	836,352	19.2		
NFS Roads Decommissioned	-24.8		-130,944	33	-4,321,152	-99.2		
			0		0	0.0		
Other Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
UA Roads	29.3		154,704	25	3,867,600	88.8		
UA Roads Decommissioned	-8.1		-42,768	25	-1,069,200	-24.5		
Temporary Road Construction	0.9		4,752	25	118,800	2.7		
Trails	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Motorized Trails	0.0		0	17	0	0.0		
NFS Non-motorized Trails	47.4		250,272	9	2,252,448	51.7		

Table C-5. Total Soil Resource Commitment (TSRC) - Alternative E

Feature	**Acres**	**TSRC** (values in percent, as a function of 19,327 acre analysis area)						
		Existing	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Cumulative**
NFS Roads (includes 8.4 mi SH21)	534.4	3.33%	2.77%	2.77%	2.77%	2.77%	2.77%	2.77%
NFS Road - New Construction	4.8		0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
NFS Road - Reconstruction/Relocation	19.2		0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
NFS Roads Decommissioned	-99.2		-0.51%	-0.51%	-0.51%	-0.51%	-0.51%	-0.51%
UA Roads	88.8	0.71%	0.46%	0.46%	0.46%	0.46%	0.46%	0.46%
UA Roads Decommissioned	-24.5		-0.13%	-0.13%	-0.13%	-0.13%	-0.13%	-0.13%
Temporary Road Construction	2.7		0.01%	0.01%	0.01%	0.01%	-0.01%	0.00%
NFS Motorized Trails	0.0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NFS Non-motorized Trails	51.7	0.11%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%
Recreation Disturbances (actual acres)	100.0	0.50%	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
Skid Trails (.5 mi/10 ac harvest)	150.0		0.78%	0.78%	0.78%	0.78%	0.58%	0.19%
Landings (18 @ 0.5 acre)	54.0		0.28%	0.28%	0.28%	0.28%	-0.28%	0.00%
Livestock Disturbances (acres)	16.0	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
Analysis Area	**19,327**	**4.7%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**3.9%**	**3.8%**

Table 10. Total Soil Resource Commitment - Alternative F

Total Soil Resource Commitment (TSRC) Calculations			**Alternative F**					
Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Roads (includes 8.4 mi SH21)	133.6		705,408	33	23,278,464	534.4		
NFS Road - New Construction	1.2		6,336	33	209,088	4.8		
NFS Road - Reconstruction/Relocation	4.8		25,344	33	836,352	19.2		
NFS Roads Decommissioned	-23.6		-124,608	33	-4,112,064	-94.4		
			0		0	0.0		
Other Roads	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
UA Roads	28.9		152,592	25	3,814,800	87.6		
UA Roads Decommissioned	-8.1		-42,768	25	-1,069,200	-24.5		
Temporary Road Construction	3.0		15,840	25	396,000	9.1		
Trails	**Miles**		**Length** (feet)	**Disturbed Width** (feet)	**Square Feet**	**Acres**		
NFS Motorized Trails	2.9		15,312	17	260,304	6.0		
NFS Non-motorized Trails	47.4		250,272	9	2,252,448	51.7		

Table C-6. Total Soil Resource Commitment (TSRC) - Alternative F

Feature	**Acres**	**TSRC** (values in percent, as a function of 19,327 acre analysis area)						
		Existing	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Cumulative**
NFS Roads (includes 8.4 mi SH21)	534.4	3.33%	2.77%	2.77%	2.77%	2.77%	2.77%	2.77%
NFS Road - New Construction	4.8		0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
NFS Road - Reconstruction/Relocation	19.2		0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
NFS Roads Decommissioned	-94.4		-0.49%	-0.49%	-0.49%	-0.49%	-0.49%	-0.49%
UA Roads	87.6	0.71%	0.45%	0.45%	0.45%	0.45%	0.45%	0.45%
UA Roads Decommissioned	-24.5		-0.13%	-0.13%	-0.13%	-0.13%	-0.13%	-0.13%
Temporary Road Construction	9.1		0.05%	0.05%	0.05%	0.05%	-0.05%	0.00%
NFS Motorized Trails	6.0		0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
NFS Non-motorized Trails	51.7	0.11%	0.27%	0.27%	0.27%	0.27%	0.27%	0.27%
Recreation Disturbances (actual acres)	103.0	0.50%	0.53%	0.53%	0.53%	0.53%	0.53%	0.53%
Skid Trails (.5 mi/10 ac harvest)	209.0		1.08%	1.08%	1.08%	1.08%	0.81%	0.27%
Landings (18 @ 0.5 acre)	57.0		0.29%	0.29%	0.29%	0.29%	-0.29%	0.00%
Livestock Disturbances (acres)	16.0	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
Analysis Area	**19,327**	**4.7%**	**5.1%**	**5.1%**	**5.1%**	**5.1%**	**4.1%**	**3.9%**

Appendix E:

Noxious Weed Control and Design Features

Becker Integrated Resource Project

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The purpose of implementing an Integrated Weed Management program is to best meet the Boise National Forest's (Forest's) responsibility for noxious weed control by using an array of effective tools while minimizing adverse effects to non-target resources and operating within the constraints of time, money, and human resources.

Options to be used for noxious weed control in the Becker Project area through Management Actions include the following:

- Biological Control Agents (biocontrol agents or bioagents)
- Mechanical Treatments (such as hand pulling, chopping, or cutting)
- Herbicides specifically formulated for forests, rangelands, and/or riparian areas

Biological Control Agents:

Biological control of weeds is the deliberate use of natural enemies to limit the distribution and abundance of a target weed. Classical biological control uses host-specific natural enemies from the target weed's native range. These natural enemies can kill or severely damage plants by consuming or injuring seeds, roots, foliage, or stems. Damage caused by natural enemies may limit the reproduction of the weed, diminish the weed's ability to compete with other plants, and facilitate secondary infection from pathogens.

Using biocontrol agents for weed control has a several advantages:

- Targets a specific weed
- Provides sustainable, long-term control
- Reduces labor costs associated with repeated mechanical or chemical treatments

Disadvantages of using biocontrol agents for weed control includes:

- Uncertainty about whether approved bioagents will be effective in controlling the target weed
- Risk of unintended, adverse impacts on native vegetation and other organisms
- Possible difficulty in adapting the bioagent to varying climatic conditions to ensure successful propagation
- Bioagents do not always work, and in most cases, does not eradicate the target weed

Currently, the Boise National Forest has effective bioagent populations established at various locations on the Idaho City and Mountain Home Ranger Districts for spotted knapweed, leafy spurge, and Dalmation and yellow toadflax. Table 1 includes the biocontrol agents and target weed species.

Table 1. Target species and biocontrol agent

Target Weed Species	Bio-Control Agent	Target
Spotted Knapweed	Urophora affinis (Seed gall fly) Agapeta zoegana (Root moth) Larimus minutus (Flower weevil) Cyphocleonus achates (Root boring weevil) Metzneria paucipunctella (Seedhead moth)	Seedhead Roots Flowers Roots Seedhead
Dalmation Toadflax	Mecinus janthiformis (Stem mining weevil)	Stem
Leafy Spurge	Aphthona nigriscutis (Leafy Spurge Flea Beetle) Apthona flava	Roots, flowers, and foliage

Rush Skeletonweed (RSW) was first documented in Idaho in 1960 and is currently the "heart" of the western US infestations. It has spread rapidly with no known native biocontrol agents to counter the infestations. Research is ongoing to isolate and test introduced biocontrol agents, and to date, four introduced bioagents have been tested and approved for release in the US to control RSW. These agents will be used on sites within the Clear Creek project area (Table 2).

Table 2. Approved bio-agent for RSW control

Bio-Agent Type	Scientific Name	U.S. Field Efficacy	Availability
Rust	*Puccinia chondrillina*	Moderate	Readily available
Mite	*Aceria chondrillae*	Moderate	Readily available
Fly	*Cystiphora schmidti*	Low on its own	Readily available
Moth	*Bradyrrhoa gilveolella*	Unknown	Being tested in Idaho along South Fork of Payette river sites

Distribution of all existing biocontrol agents established on the Forest will occur throughout the Becker Project area in an effort to provide long-term, cost-effective management of noxious weeds.

As part of an integrated approach to long-term noxious weed management options, and as more biocontrol agents become available in the United States and prove to be effective for control of these weeds and other weed species that establish in the Becker Project area, any of these biocontrol agents, as well as others, may be used if it is determined that they can withstand the climatic conditions, propagate, and provide a long-term solution for weed control.

Mechanical Treatments:

Mechanical treatments are methods that physically damage, destroy, or disrupt the growth and/or reproduction of noxious weeds. These treatments can consist of hand pulling, grubbing, digging, hoeing, tilling, cutting, mowing, burning, or mulching and may use tools such as a handsaw, shovel, rake, weed eater, axe, hoe, hand clippers, mower, or other motorized weeding equipment.

Most mechanical treatments should occur prior to seed production. If the weeds are in the flowing stage, it is best to cut off the seed heads and bag them for disposal before mechanically treating the remaining vegetative parts.

Mechanical treatments are typically used on a limited basis, primarily to control individual plants or very small, isolated infestations of weeds in sensitive areas such as riparian areas or near rare plant populations. Mechanical treatments are most effective in removing or preventing production of weed seeds. Larger infestations of weeds are very difficult to control with mechanical treatment and may require multiple treatment types.

Mechanical treatments may be used in small areas throughout the project area that are too sensitive for herbicide use or too harsh for bioagent establishment.

Hand pulling and grubbing of weeds is less effective on rhizomatous than non-rhizomatous weed species because of their well-developed root system and carbohydrate reserves. These treatments often leave root fragments in the ground. If sufficient root mass is removed, the

individual plant can be destroyed. However, some weed species such as leafy spurge respond to mechanical treatment by aggressively re-sprouting even if only small root fragments remain in the soil.

Cutting and mowing weeds can reduce reproduction in perennial species and weaken their competitive advantage by using up carbohydrates stored in the root systems. Mechanical treatments must be repeated several times a year for many years to eradicate weed species that are prolific seed producers and have built up a residual seed bank in the soil. To be most effective, mechanical treatment must occur before seed production occurs. Weeds that have already flowered must be removed from the treatment area and destroyed.

Burning is occasionally used as a tool to help herbicides treatment reach the ground and the roots more effectively. Burning is rarely used as a primary treatment practice. Herbicides may be used in combination or as a follow-up to mechanical treatments. It is anticipated that burning could occur at a frequency of 1 in every 5 years and will be less than 1 acre in size. Prescribed burning is not part of this proposed action and will be completed through separate actions.

Chemical Treatments:

Chemical treatments involve the application of herbicides (chemical compounds) at certain stages of plant growth to kill targeted weed species. Herbicides are used to treat unwanted vegetation, such as noxious weeds, because they are very effective and results occur within a short period of time.

As part of an Integrated Weed Management program within the Becker Project area to treat noxious weeds, herbicide use will take place prior to ground disturbing activities, and after, to prevent the spread of existing weed species and to ensure eradication of newly introduced noxious weed species. Herbicides, such as Tordon (picloram), have residual characteristics and decompose slowly over the course of 1 to 2 years, providing continuous noxious weed control until the residual is gone. Herbicides with residual characteristics are advantageous in upland areas where it is not feasible to return several times a year to re-apply herbicides. Such sites may include obliterated roadbeds with known noxious weed seed sources.

Currently, all herbicide use on the Boise National Forest is done by ground-based application. Backpack sprayers, compressed air hand sprayers, truck mounted and ATV/UTV mounted sprayers are used to spot spray individual weeds or small patches, while boom sprayers are used to broadcast-spray large or continuous area infestations.

Herbicides are made up of various substances which make them effective, safer to use, and easier to apply. The active ingredient (AI) in herbicides is the chemical that affects the target species. Other components of the herbicide, are inert (inactive) ingredients, and may include water or a petroleum solvent, wetting agents, spreaders, stickers, extenders, or diluents. The complete mixture is called the pesticide formulation. Some formulations are ready for use, while others may require further dilution with water, a petroleum solvent, or air before they are applied.

The herbicide list for the Boise National Forest is listed in Table 3.

Table 3. Boise National Forest herbicide list

Product Name	Active Ingredient (AI)	Approved for Aquatic or Non-Aquatic Application	Maximum Label Application Rate	Application Rates
Milestone, Milestone VM	Aminopyralid	Non-aquatic	Cannot exceed 7 fl oz/ac/yr; spot spray = 0.22 lb AE/ac or less (14 fl oz/ac/yr) but not more than 50% of an acre at that rate	0.08-0.18 lbs AI/ac or less
Weedestroy, UAP-Timberland Platoon	2,4-D amine	Both	3 lbs AE/ac/yr or less	2 lbs AE/ac or less
Telar XP	Chlorsulfuron	Non-aquatic	Do not apply more than 3 times/yr; do not apply more than 0.02 lbs AI/ac/yr	0.02 lbs AI/ac/yr or less
Tordon 22K, Outpost 22K	Picloram	Non-aquatic	1 lb AI/ac	1 lb AI/ac or less
Rometsol	Metsulfuron- methyl	Non-aquatic	Do not exceed 1 $^{2}/_{3}$ oz/ac/yr	1 oz AI/ac or less
2,4-D Amine 4 (Agri-Star)	2,4-D amine	Non-aquatic	3 lbs AE/ac/yr or less	Less than 2 lbs AE/ac/yr or less
Escort XP	Metsulfuron- methyl	Non-aquatic	$1^{2}/_{3}$ oz/ac/yr or less with no restrictions; at rates up to 3 $^{1}/_{3}$ oz/ac/yr delay grazing until 3 days after treatment	1 oz AI/ac or less
Aqua Neat	Glyphosate	Both	3.75 lbs AI/ac or less	2.7 lbs AI/ac or less
Weedar 64	2,4-D amine	Both	3 lbs AI/ac	.95 to 1.9 lbs AE/ac or less
Roundup	Glyphosate	Non-Aquatic	3.75 lbs AI/ac or less	1.5 lbs AI/ac or less; 1.5 qts/25 gal water/ac
Plateau	Imazapic	Non-Aquatic	0.75 lb AI/ac	0.16 lbs AI/ac or less
Transline	Clopyralid	Non-Aquatic	0.5 lbs AI/ac	.15 lbs AI/ac to 0.5 lbs AI/ac or less
2,4-D/Round-up mixture	2,4-D/Glyphosate	Non-Aquatic	3 lbs AI/ac (2,4-D); 3.75 lbs AI/ac (Glyphosate)	1.9 lbs AI/ac or less (2,4-D); 1.5 lbs AI/ac or less (Round-up)
Tordon 22K/2,4-D Amine mixture	Picloram/2,4-D amine	Non-Aquatic	1 lb AI/ac (picloram); 2.0 lbs AI/ac (2,4-D)	.5 lb AI/ac (Tordon 22K); 1 lb AI/ac (2,4-D)
Escort	Metsulfuron- methyl	Non-Aquatic	2 oz AI/ac	1 oz AI/ac or less
Telar	Chlorsulfuron	Non-Aquatic	1 oz AI/ac	1 oz AI/ac or less
Glypro	Glyphosate	Non-Aquatic	3.75 lbs AI/ac	1.35 lbs AI/ac
Redeem	Clopyralid/Triclopyr	Non-Aquatic	.375 lbs AI/ac (Clopyralid); 1.25 lbs AI/ac (Triclopyr)	.375 lbs AI/ac (Clopyralid); 1.125 lbs AI/ac (Triclopyr)
Tordon 22K/Banvel mixture	Picloram/Dicamba	Non-Aquatic	1 lb AI/ac; 2.0 lbs AI/ac (Dicamba)	.25 lbs AI/ac (Tordon 22K); 1 lb AI/ac (Banvel)
Banvel, Diablo, Rifle	Dicamba	Non-Aquatic	2.0 lbs AI/ac	1 lb AI/ac or less
Garlon 3A	Triclopyr	Non-Aquatic	2 lbs AI/ac of less	.02 lb AE/ac
Razor	Glyphosate	Non-Aquatic	3.75 lbs AI/ac	.5 to 3 lbs AI/ac or less
Veteran 720	2,4-D/Dicamba	Non-Aquatic	3.0 lbs AI/ac (2,4-D); 2.0 lbs AI/ac (Dicamba)	.47 to 1 lbs AI/ac or less

Product Name	Active Ingredient (AI)	Approved for Aquatic or Non-Aquatic Application	Maximum Label Application Rate	Application Rates
Weedmaster	2,4-D/Dicamba	Non-Aquatic	3.0 lbs AI/ac (2,4-D); 2.0 lbs AI/ac (Dicamba)	1.43 lbs AI/ac or less (2,4-D); 0.5 lbs AI/ac or less (Dicamba)
Roundup Original Max	Glyphosate	Non-Aquatic	3.75 lbs AI/ac	.67 to 1.34 lbs AI/ac
Formula 40	2,4-D	Non-Aquatic	3.0 lbs AI/ac	Less than 2 lbs AI/ac

*AI – Active Ingredient; AE – Acid Equivalent.

Types of Herbicides

2,4-D amine—The most commonly used and most widely studied herbicide in the U.S. (SERA 2001), 2,4-D is a member of the chlorinated phenoxy family and interferes with normal plant growth processes by stimulating nucleic acid and protein synthesis and affecting enzyme activity, respiration, and cell division. It is labeled for a wide range of uses and is an active ingredient in many products offered by several manufacturers for home use. Several common brand names containing 2,4-D formulations are, Weedar 64, HiDep, Formula 40, and Solution. 2,4-D acts as a growth-regulating hormone on broad leaf plants and is absorbed by leaves, stems, and roots and accumulates in a plant's growing tips.

Aminopyralid—Aminopyralid is a pyridine carboxylic acid herbicide used to control susceptible broadleaf weeds, including noxious and invasive weeds. Aminopyralid is systemic and is absorbed through the leaves and the roots where it is transported to other parts of the plant. Aminopyralid disrupts plant growth metabolic pathways, affecting the growth process of the plant. Aminopyralid provides systemic postemergence broad-spectrum control of a number of key noxious and invasive annual, biennial and perennial weed species, as well as agronomic broadleaf weeds. Aminopyralid can also provide residual weed control activity by controlling re-infestations and reducing the need for re-treatment depending on the rate applied and the target weeds. This product can be sprayed up to the edge of water and can also be used on "seasonally dry" wetland. Aminopyralid is the only active ingredient in the herbicide product Milestone (40.6%). According to the product label, Milestone also contains 59.4% inert ingredients (unspecified). Milestone is applied at a maximum of 7 fluid ounces per acre per year, which is equivalent to 0.22 pounds of the active ingredient aminopyralid per acre per year. Where used, the typical application rate of Milestone is equivalent to about 0.093 pounds of Aminopyralid per acre per year.

Chlorsulfuron—Chlorsulfuron is used to control many broadleaf weeds and some annual grass weeds. It is absorbed by the leaves and roots of the weed and prevents production of an essential amino acid, which inhibits cell division and plant growth. Treatment areas include non-crop sites such as roadsides, rights-of-way, and fence rows. A common formulation of this herbicide is the marketed product, Telar.

Clopyralid—A relatively new and very selective herbicide, clopyralid is a 3,6-dichloro-2-pyridinecarboxylic acid, commonly known as Transline, Stinger, or Reclaim. Transline contains clopyralid (40.9%) and inert ingredients (water, isopropyl alcohol, and a proprietary surfactant) (59.1%). Clopyralid is the active ingredient in Transline and one of two active ingredients (the other being 2,4-D) in Curtail. Clopyralid is absorbed by the leaves and roots

of broadleaved plants and moves rapidly through plants, affecting plant cell respiration and growth.

Clopyralid is toxic to some members of only three plant families: the composites (Compositae), the legumes (Fabaceae), and the buckwheats (Polygonaceae). Clopyralid is very effective against knapweeds, hawkweeds, and Canada thistle at application rates of one-quarter to one-half pound per acre (U.S. Forest Service 2001d). Its selectivity makes it an attractive alternative herbicide on sites with non-target species that are sensitive to other herbicides. Clopyralid is more persistent than 2,4-D and dicamba, but less persistent than picloram. It is degraded almost entirely by microbes and is not susceptible to photo or chemical degradation (Tu et al. 2003).

Dicamba—Dicamba (2-methoxy-3,6-dichlorobenzoic acid) is a selective benzoic acid herbicide registered for the control of certain broadleaf weeds and woody plants before their emergence. It will kill broadleaf weeds before and after they sprout. Dicamba is rapidly taken up by the leaves and roots of plants and is readily translocated to other plant parts. Dicamba is absorbed by the leaves and translocated throughout the plant, where it exerts an auxin-like growth regulatory effect. Weed control is generally achieved in 5 to 7 days.

Glyphosate—Labeled for a wide variety of uses, including home use, glyphosate is marketed as Rodeo, Accord, Roundup, and numerous other brand names (Table 3). Glyphosate is a non-selective, broad-spectrum herbicide that is readily absorbed by leaves, translocated throughout the plant, and disrupts the photosynthetic process. This herbicide affects a wide variety of plants, including grasses and many broadleafs, and has the potential to eliminate desirable as well as undesirable vegetation. Some plant selectivity can be achieved by using a wick applicator to directly apply glyphosate to the target plant, thereby avoiding desirable vegetation. Rodeo is proposed as the main glyphosate compound for use on the Sawtooth NF, mainly for its low toxicity to aquatic systems. The Rodeo and Accord formulations of this herbicide (without the surfactant in Roundup) are labeled for aquatic use and are the formulations which will be used adjacent to water (SERA 2003).

Imazapic—Imazapic (trade name Plateau® and Cadre®) is a pyridine carboxylic acid herbicide intended for use in rangelands and forests. Imazapic is a selective herbicide for both the pre- and post-emergent control of some annual and perennial grasses and some broadleaf weeds. Imazapic will be used primarily for the direct control of annual grasses, leafy spurge, and Dalmatian and yellow toadflax. It could be used on other noxious weed species as well where either trials or research indicate it is effective. Imazapic kills plants by inhibiting the activity of the enzyme acetohydroxy acid synthase (AHAS or ALS).

Imazapic may be mixed with other herbicides such as triclopyr (Garlon®), glyphosate (RoundUp®), picloram (Tordon®), imazapyr (Arsenal®), or other products to provide total vegetation control. However, mixtures of imazapic with 2,4-D and other phenoxy-type herbicides provide less control of perennial grass weeds than imazapic alone. According to the manufacturer, combining imazapic with other herbicides should not increase the toxicological risk over that of either herbicide when used alone.

Metsulfuron methyl—Metsulfuron methyl is methyl 2-[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-amino]carbonyl]-amino]-sulfonyl]benzoate and is commonly known as Escort. Escort contains metsulfuron methyl (60%) and inert ingredients (40%). Metsulfuron methyl is absorbed through the roots and foliage and moves rapidly through the plants. It inhibits cell

division in the roots and shoots, which stops growth. This herbicide is used to control annual and perennial broadleaf weeds. Typical control areas include rights-of-way along roadsides and powerline corridors. The most commonly used formulation of this herbicide is the marketed product, Escort. Metsulfuron methyl can be mixed with other chemicals to provide more effective weed control.

Picloram—Picloram is 4-Amino-3,5,6-trichloro-2-pyridinecarboxylic acid, and is known as Access®, Grazon®, Pathway®, or Tordon®. This is a restricted use pesticide (for use only by certified applicators) labeled for non-cropland forestry, rangeland, rights-of-way, and roadside weed control. Picloram was placed in this category due to its mobility in water. It is the active ingredient in the marketed product Tordon. Tordon® K contains essentially 24.4% of picloram (potassium salt), and 75.6% inert ingredients, which include water and dispersing agents, including surfactants. Although picloram is most often applied in Forest Service programs as the sole herbicide, it is also applied in combination with 2,4–D and less commonly with other herbicides.

Picloram acts as a growth regulator and is used to control a variety of broadleaf weed species. It is absorbed through leaves and root uptake, is easily translocated through plants, and accumulates in new growth causing leaves to cup and curl. Picloram is generally applied at rates of one-quarter to one-half pound per acre for non-rhizomatous weeds.

Triclopyr—Triclopyr is sold under names such as Access, Crossbow, ET, Garlon, Grazon, PathFinder, Redeem, Rely, Remedy, and Turflon. However, the only herbicide analyzed in this assessment is Redeem. Triclopyr herbicides proposed for use contains triethylamine salt (TEA) found in Redeem. In comparison, the ester form of triclopyr, known as triclopyr BEE, is exponentially more toxic to fish when compared to TEA. The Sawtooth N.F. will not use the BEE form.

Triclopyr is a growth-regulating herbicide to control woody and broadleaf perennial weeds in non-cropland, forestland, range, permanent grass pasture, turf, and rights-of-way. Triclopyr mimics auxin, a natural plant hormone, causing an auxin overdose 1,000 times greater than natural levels. This interferes with hormonal balance and normal growth, eventually causing death of the plant. Triclopyr has a low toxicity to grasses, but can harm conifers in high doses.

Most triclopyr is sold as a triethylamine salt (abbreviated TEA) or butoxyethyl ester (abbreviated BEE) derivative of the parent chemical, triclopyr acid. Triclopyr TEA was registered with the Environmental Protection Agency (EPA) in 1979 and triclopyr BEE was registered with the EPA in 1980. Triclopyr BEE and triclopyr TEA rapidly degrade into the parent chemical, triclopyr acid, after application.

Combinations of herbicides may be the most appropriate treatment where several species of noxious weeds occur together, or where the herbicides affect weeds differently. For example, a mixture of picloram and 2,4-D, which are both broadleaf-selective herbicides, is used for many broadleaf weed species. 2,4-D generally has a shorter half-life compared to the more persistent picloram, and when used with picloram may provide more effective weed control than either chemical used alone. By itself, picloram is generally the most persistent of the herbicides described above. It therefore requires fewer repeat applications, is more effective against many weed species, and when applied according to label specifications is not likely to affect non-target plants. By comparison, glyphosate (via wick application only) or 2,4-D

labeled for use near water might be the only or most appropriate chemicals allowed in the treatment of common tansy, which occurs largely in moist habitats or near water. In contrast, picloram may be used more often to treat yellow star-thistle, which occurs in dry sites. Chemical treatment also can be used in conjunction with, or preceding, non-chemical weed control treatments, depending on weed species composition, infestation level, and environmental setting.

Adjuvants: The inert ingredients added to an herbicide formulation or mixture to increase the effectiveness of the active ingredient or offset problems such as adverse water quality or wind, is called an **adjuvant**. Some common adjuvants are:

- **Wetting Agents**—allow powders to mix with water and adhere to plants.
- **Emulsifiers**—allow petroleum-based pesticides to mix with water.
- **Invert Emulsifiers**—allow water-based pesticides to mix with petroleum carriers.
- **Spreaders**—allow herbicides to form a uniform coating over the treated plant surface.
- **Stickers**—allow herbicides to stick to the plant surfaces.
- **Foaming Agents**—reduce herbicide drift.
- **Compatibility Agents**—allow herbicides to combine effectively.
- **Buffers**—allow pesticides of different acidity or alkalinity to mix.
- **Anti-foaming Agents**—reduce foaming of mixtures that require vigorous agitation.

Spray adjuvants used on the Boise National Forest are non-ionic surfactants, meaning they have no ionic charge and are hydrophilic (water-loving). Spray adjuvants are commonly used in a 1:800 ratio of adjuvant to water as a typical rate of application. They are generally biodegradable and are compatible with many fertilizer solutions. R11 is a spreading agent that lowers the surface tension on the droplet so it covers the target plant more efficiently. The additives used on the Boise National Forest are not hazardous or listed as Level 1 (Inert Ingredients of Toxicological Concern) or Level 2 (Potentially Toxic Inert Ingredients) compounds when used as intended and label directions are followed. Inert ingredient toxicity level ratings are different than herbicide toxicity level ratings.

The adjuvant (surfactants and dyes) list for the Boise National Forest is found in Table 4.

Table 4. Boise National Forest adjuvants

Surfactant or Dye Name	Rate
Activator 90 (Non-ionic)	1 lb/ac or less
Bullseye Spray Pattern Indicator (Dye)	NA
Cayuse	2.68 lbs AI/ac
HiLight (Dye)	NA
R-11 Spreader Activator	NA
Ad-Wet 90	1 lb/ac or less

Herbicides can be characterized by how they enter plants or move within plants, as well as how they are applied to plants and persist in the soil. The following are various characteristics of herbicides:

- **Foliar-Contact-Nonselective**: these herbicides are applied to weed foliage. They kill the foliage they come in contact with (*nonselective*), with little to no translocation to other parts of the plant (*contact*). These herbicides are effective on annual weed seedlings.
- **Foliar-Contact-Selective**: these herbicides are applied to weed foliage. They kill certain types of foliage they come in contact with by a contact-burning effect (*contact* and not translocated). These herbicides kill only certain types of weeds due to the various plant leaf surfaces and plant structures, thus some weeds are tolerant of this type of herbicide (*selective*). These herbicides are effective on weed seedlings.
- **Foliar-Systemic-Nonselective**: these herbicides are applied to weed foliage where they are absorbed and translocated throughout the plant (*systemic*), including the roots. These herbicides do not remain residual in soils. They are effective on perennial weeds. An example of such herbicide is Glyphosate.
- **Foliar-Systemic-Selective**: these herbicides are applied to weed foliage where they are absorbed and translocated throughout the plant (*systemic*), including the roots. These herbicides kill only certain types of weeds due to various plant leaf surfaces and plant structures, thus some grassy weeds are tolerant of this type of herbicide (*selective*). Grasses are not affected by these types of herbicides, which makes this one of the most widely used herbicide types. Examples of these herbicides include dicamba, triclopyr, and 2,4-D.
- **Soil-Short Residual-Nonselective**: this herbicide group is one of the smallest. Herbicides in this group are applied to the soil, have a residual activity of a few hours to less than 1 year, and are nonselective.
- **Soil-Short Residual-Selective**: these herbicides, often referred to as Preemergence herbicides, are applied to the soil because they are absorbed by weeds through their roots or shoots. This group of herbicides has a residual activity of less than 1 year.
- **Soil-Long Residual-Nonselective**: these herbicides are used to control all types of vegetation for a lengthy period of time.
- **Soil-Long Residual-Selective**: these herbicides have a low solubility in water, and if applied at lower rates, do not leach readily; thus, they are good for weed control in deep-rooted vegetation. They are often applied to the foliage, but may also be absorbed through the roots.

There are several factors that may affect the use and expected results of herbicide application in the environment. Some of the main factors include the following:

- **Soil Type**: soils with high organic matter content may adhere to the active ingredient in herbicides, limiting their effectiveness. Applicators may often need to increase application rates for the best control of weeds on sites with organic soils. Soils with larger particles, such as sandy soil, require lower application rates whereas soils with high clay content require higher rates for best coverage.
- **Plant Surface Moisture**: if vegetation is too dry, herbicides may not spread evenly over the vegetation and to the vegetative parts where absorption is needed to be effective. If vegetation is too moist on the vegetative parts where absorption is needed, the herbicide may not be absorbed at the level needed to be effective. Herbicides work best when the vegetative surfaces are of a moderate moisture level.

- **Rain**: depending on the type of herbicide used, a rain event following too soon after herbicide application may cause the herbicide to wash off prior to being absorbed. This may result in herbicides being leached into the soils and transported off site. However, there are certain types of herbicides, such as granular forms or soil application forms, which require rain to release them or wash them down to roots to be absorbed.
- **Air Temperature and Humidity**: if temperatures are too hot, herbicides may breakdown too quickly before they can be transported to the site of absorption or before they are in contact long enough to be effective. Low temperatures may slow physiological processes in the plant, thus affect herbicide effectiveness. Humidity affects how plants grow—high humidity often causes plants to grow rapidly and is an optimal time for herbicides to be effective.
- **Wind**: herbicides should never be applied when wind speeds exceed 10 mph because herbicides can drift to non-target species. Even if some of the herbicide makes contact with the target weed species, it may not be at a high enough concentration to be effective.

How Pesticides Breakdown in the Environment:

- **Photodegradation:** the breakdown of pesticides by exposure to sunlight.
- **Microbial degradation:** the process in which microorganisms in soil use pesticides as food.
- **Chemical reactions with soils**: soil pH levels, temperature and moisture influence the rate and type of chemical reactions and breakdown that occurs in the soils. The products of these reactions are usually nontoxic and do not create new pesticide compounds.

Understanding Pesticide Toxicity:

Toxicity is estimated by testing animals at different dosages of the active ingredient and each of its formulations.

Acute toxicity is based on a single dosage of the chemical by exposure to the skin, breathing the vapors, and ingestion. The harmful effects to the test specimen through exposure by these three methods is acute toxicity and is expressed as *lethal dose 50* (LD_{50}) and *lethal concentration 50* (LC_{50}). This is the amount of active ingredient in the tested pesticide required to kill 50% of the test specimens under laboratory testing conditions.

When comparing LD_{50} and LC_{50} values, the lower the value of a pesticide, the less it takes to kill 50% of the lab specimens tested—which means the greater the acute toxicity is for the pesticide.

Signal words are used to identify toxicity categories for acute toxicity effects. Table 5 contains a list of the signal words used and their relative reference.

Table 5. Toxicity Signal Words

Herbicide Toxicity Category	Signal Word	Toxicity	Oral LD50 (mg/kg)	Dermal LD50 (mg/kg)	Inhalation LC50 (mg/L)	Eye Irritation	Skin Irritation
I	Danger - Poison	Highly toxic	0-50	0-200	0-0.2	Corrosive; corneal opacity not reversible within 7 days	Corrosive
II	Warning	Moderately toxic	>50-500	>200-2,000	>0.2-2.0	Corneal opacity reversible within 7 days; irritation persisting for 7 days	Severe irritation at 72 hours
III	Caution	Slightly toxic	>500-5,000	>2,000-20,000	>2.0-20	No corneal opacity; irritation reversible within 7 days	Moderate irritation at 72 hours
IV	None	None	>5,000	>20,000	>20	No irritation	Mild or slight irritation at 72 hours

Chronic toxicity of a pesticide involves long-term exposure to the active ingredient. The harmful effects occurring from this exposure are *chronic effects*. The following is a list of suspected chronic effects from long-term exposure to certain pesticides:

- Teratogenesis—birth defects
- Fetotoxic effects—toxicity to a fetus
- Oncogenesis—production of tumors
- Noncancerous—benign tumors
- Cancerous/Carcinogenesis—malignant tumors
- Mutagenesis—genetic changes
- Hemotoxic effects—blood disorders
- Neurotoxic effects—nerve disorders

Table 6 is a toxicology profile for some of the most common herbicides used on the Boise National Forest.

Table 6. Common herbicide toxicology profile

Toxicology	Transline Clopyralid	Weedar 64 2,4-D	Roundup Glyphosate	Escort Metsulfuron Methyl	Tordon 22K Picloram	Plateau Imazapic	Banvel Dicamba
Rainbow Trout (96 hr LC50)(mg/L)	103	250	>1000	>150	5.5-19.3	>100	28
Daphnia (96 hr L C50)(mg/L)	232	184	930	>12.5 (48 hr)	68.3	>100	100
Bio-accumulates	No	Np	No	No	No	No	No
Persistence in soil	40 days (moderate)	10 days (low)	47 days (moderate)	30 days (1-4 wks)(low)	90 days (20-300)(mod-high)	7-150 days (low-high)	7-42 days (low-mod)
Mobile in soil	No	Yes, but degrades rapidly	No	No	Yes	No	Yes

Most pesticide accidents can be traced to applicator carelessness or misuse. There are four main routes of entry for a pesticide to enter the human body through 1) the skin (dermal), 2) the lungs (inhalation), 3) the mouth, and 4) the eyes. For these reasons, it is required to wear personal protective equipment while working with and around herbicides.

Standard management practices for applying herbicides to avoid or minimize adverse effects:

- Herbicides will not be applied if wind speed exceeds 8 mph or less, depending on the herbicide label.
- Herbicides will not be applied if weather reports indicate rainfall will occur within 3 hours after application.
- Herbicides with non-aquatic labels will be applied **outside** a 100-foot riparian buffer zone (from high-water mark), except in Resource Areas of Concern identified by the National Marine Fisheries Service (NMFS), where the riparian buffer zone is 300 feet (from high-water mark). Herbicides with aquatic labels are approved to be applied inside the buffer zones, as well as below the high-water mark. Applications below the high-water mark will be managed within direction established by the EPA in accordance with the NPDES Pesticide General Permits issued to the Boise National Forest.
- Riparian zones will be spot treated with backpack sprayers and hand sprayers, or wipers.
- Application rates will be the minimum necessary to control target species.
- Sensitive plant species sites will be identified prior to herbicide application, no herbicide will be applied directly to sensitive plant species, and a 100-foot buffer will be maintained around the sensitive plant species.
- No more than one application of picloram in a treatment area will occur per year.

- Herbicide mixing sites must be farther than 100 feet from surface water, and 300 feet from surface water in NMFS Resources Areas of Concern areas. Motorized equipment must be placed on a hard surface that will not allow mix to flow in the direction of water. Hand equipment must be placed on a double layer of 5 .ml plastic sheets large enough to contain any spills.
- Applicators mix only those quantities of herbicides that can be reasonably used in a day. Any unused herbicide is stored in an herbicide locker.
- All application equipment will be maintained and calibrated at the beginning of the season and checked often during herbicide application operations throughout the season. Maintenance and calibration records will be kept, as required by the Boise National Forest's NPDES Pesticide General Permit.
- All pesticide applicators will be required to wear personal protective equipment.
- Dyes will be added to herbicide mixes so treated areas can be easily identified.
- Materials Safety Data Sheets and product labels will be reviewed prior to applications at the beginning of the season.
- A pesticide spill kit will be available on site while handling, mixing, and applying herbicides.
- Any areas that cannot be treated with herbicide before application begins at the site will be identified, and all applicators will be made aware that the area needs to be avoided.
- All treatments will be included in a Pesticide Use Proposal (PUP) before herbicide application occurs for the year.
- Herbicide treatments will be coordinated with District employees who may be working in or around the area the same day.
- Cleaning of all chemical storage, mixing, and post-application equipment will be ensured and completed in such a manner as to prevent the potential contamination of any RCA, or perennial or intermittent waterway with non-aquatic labeled herbicides.
- The Boise National Forest Pesticide Discharge Management Plan (PDMP) will be readily available during all field applications.
- All pesticide applications will be in accordance with the Boise National Forest's Pesticide General Permits, IDG87A500 (for all areas outside NMFS Resources of Concern) and IDG87A596 (for all areas inside NMFS Resources of Concern).

Table 7 depicts the Aquatic Level of Concern Assessment for some of the common herbicides used on the Boise National Forest.

Table 7. Aquatic Level of Concern Assessment

Active Ingredient	Product Name	Typical Application Rate (lbs AI/ac)	Max Label Application Rate (lbs AI/ac)	EEC (ppm)	Toxicity 96-hour LC50 (mg/L)	Safety Factor 1/20 LC50 (mg/L)	Species Tested	Risk Quotient and Level of Concern
Clopyralid	Transline	.15 lbs AI/ac to 0.5 lbs AI/ac	0.5	0.184	103	5.2	Rainbow Trout	28 Low
2,4-D amine	Amine 4, Weedar 64	2 lbs AI/ac or less	3.0	1.103	250	12.5	Rainbow Trout	11 Low
Glyphosate	Roundup	1.5 lbs AI/ac or less	3.75	1.379	1000	50	Rainbow Trout	36 Low
Metsulfuron-methyl	Escort	1 oz AI/ac or less	2.0 oz	0.046	150	7.5	Rainbow Trout	163 Low
Picloram	Tordon 22K	1 lb AI/ac or less	1.0	0.368	19.3	0.965	Rainbow Trout	2 Moderate
Imazapic	Plateau	0.16 lbs AI/ac or less	0.75	0.276	100	5.0	Rainbow Trout	18 Low
Dicamba	Banvel	1 lb AI/ac or less	2.0	0.735	28	1.4	Rainbow Trout	1.9 Moderate

Herbicide Background—Laws and Requirements:

The herbicides that will be used in the Clear Creek Project area for noxious weed control are registered with the United States Environmental Protection Agency (EPA). Several federal agencies administer pesticide laws and require all pesticides to be registered before they can be sold or used in the United States.

Both the United States Congress and the Idaho Legislature have enacted legislation regulating the production, transportation, sale, use, and disposal of all pesticides. The most prominent pesticide law is the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which is overseen by the EPA.

The Idaho Pesticide Act of 1976, as amended, is the major state regulatory law and is administered by the Idaho Department of Agriculture (ISDA). Rules and regulations relating to pesticide use and chemigation for Idaho originate from this act.

When an herbicide is registered by the EPA, it means the product has been tested by the manufacturer and all required criteria are met. The test data must show that the intended use(s) of the product will not create unreasonable risks.

In addition to the test data, the manufacturer must submit a label that includes special information on how to properly use the herbicide. Labels contain information on the proper administration of each herbicide including: ingredient list; chemical name; common name; type of herbicide; net contents; name and address of manufacturer; EPA registration number; precautionary statements; directions for use, storage, and disposal; mixing and application rates; approved uses and inherent risks of use; and limitations of remedies.

The EPA grants Section 3 registrations to herbicide products after all data and tests fully satisfy the requirements for federal registration, which could take anywhere from 3 to more than 7 years to complete.

All pesticides used on the Boise National Forest for vegetation management have been evaluated for risks to human health and the environment. These risk assessments are available for review from the Forest Health Protection Unit of USFS State and Private Forestry.

Pesticide application on the Boise National Forest is completed by employees who are certified pesticide applicators, or directly supervised in the field by a certified pesticide applicator. Certified pesticide applicators have completed training programs pertaining to the principles of proper handling and use of pesticides. In order to maintain a certification for pesticide application, applicators are required to complete continuing education programs (credits) throughout their careers.

Appendix F:

Programmatic Culvert Replacement Biological Assessment and Biological Opinion Requirements

Becker Integrated Resource Project

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D. Construction Methods and Design Features

This section describes construction phases and design parameters generally necessary to complete projects in the activity categories and design features specific to typical construction activities and represent typical actions required for implementation of programmatic activities. These methods and measures are designed to minimize potential detrimental effects to listed fish species, critical habitat, and Essential Fish Habitat (EFH) and will be incorporated into project design and implementation by the PDT. All measures should be incorporated into design and implementation, unless there are alternatives for accomplishing the underlying objectives of the measure and alternatives are accepted by the PDT. Based on site-specific conditions and activity category, the phases, methods, and timing may vary to more effectively meet the goals of stream simulation. Variations in design features will involve the Level 1 Team and PDT input, to ensure that adverse effects to listed species, stream channels, and aquatic habitats are minimized.

Many streams have invasive aquatic species such as the New Zealand mudsnail and whirling disease. Many of these species are practically invisible to the naked eye and nearly impossible to detect if attached to heavy equipment. Projects in streams known or suspected to contain non-native, invasive, or competitive fish species (*e.g.,* brook trout) that would not facilitate expansion into occupied bull trout habitat, will require evaluation by the PDT during project planning.

Site Preparation

Site clearing, staging areas, access routes, and stockpile areas will be recommended by the PDT in order to minimize disturbance, reduce impacts to riparian vegetation, and minimizes the potential erosion into stream channels.

Riparian buffers will avoid the potential for delivery of sediment or contaminants to streams. Buffers of different widths may be recommended for different activities such as site preparation, equipment work areas, equipment staging areas, equipment fueling and maintenance areas, earthmoving, and stockpile areas, depending on the level of protection necessary. Site specificity and the level of protection necessary will be evaluated by the PDT, and will take into account, but may not be limited to the following; presence of listed species, flow regime, floodplain width, riparian characteristics, stream size, valley shape.

- Install sediment barriers (*e.g.* silt fences, weed free straw bales, sandbags, etc...) around disturbed areas (*e.g.* stockpile and staging areas) to minimize the potential for sediment delivery into stream channels and road ditches.
- Riparian buffers will be designated and flagged.
- Trees that are removed in order to facilitate structure placement, will be stockpiled for use in stream channel or floodplain rehabilitation or maintenance.
- A supply of surplus sediment barriers will be kept on hand, to respond to unanticipated events that have the potential to deliver sediment to stream channels.
- Boundaries of staging areas, stockpile areas, and other locations where impacts might be anticipated will be designated and flagged.
- Existing disturbed areas, such as road prisms, will be utilized whenever possible.
- Areas of minimally sufficient size would be cleared if staging or stockpile areas do not exist.

Fish Avoidance

A fisheries biologist will conduct, or direct, a survey of the project location during project planning and also prior to implementation, in order to determine if ESA-listed fish species inhabit the project area. The fisheries biologist or designee will also conduct clearing operations. Once evaluations and operations are completed, it is not necessary for a fisheries biologist to be on site during following activities, although it is encouraged. Passive movement of fish can usually be achieved by slow dewatering in steeper channels. Should active removal methods be warranted, such as electrofishing, netting or seining, depending on local site conditions, a fisheries biologist will clear the area, to the best of their abilities, before site is dewatered.

- All projects will be conducted during low flow conditions, to minimize effect to or delay movement of ESA-listed species.
- Should ESA-listed fish species be observed at the project location during planning, consider appropriate removal actions to clear the area.
- Conduct pre-work survey, within 1 week prior to project implementation. Should listed fish be observed at site, or 600 feet downstream, which would be affected by project actions, determine appropriate methods (passive or active) for removing fish.
- Should migrating or spawning listed fish, or redds of listed fish species be observed within the project area during implementation, or 600 feet downstream of the project area, consult the Level 1 team for an appropriate course of action or initiate emergency consultation.
- Handling of fish will be conducted by or under the direction of a fisheries biologist, using methods directed by the following; NMFS Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act (Appendix E), Idaho Department of Fish and Game Scientific Collection Permit (or Montana, Washington, or Nevada equivalent), or NMFS steelhead collection permits, if applicable.

Dewatering

In most cases, project design will call for dewatering which typically consists of a pipe or side-channel diversion to carry diverted streamflow from a diversion point around the project site to a location downstream of the project site and the diversion structure may act as a temporary barrier to fish passage. It may be necessary to have temporary equipment access through the riparian area to the site of the dewatering structure. If a lined channel, rather than a pipe or side-channel diversion is used for dewatering, excavation would be required from the diversion point, through the floodplain, and down to a re-entry point below the project site.

The dewatering structure is typically a temporary dam built just upstream of the project site with rock or sand bags filled with clean gravel, covered with plastic sheeting. A portable bladder dam or other diversion technologies constructed of non-erodible material may be used to contain stream flow; however, mining of stream or floodplain rock cannot be used for diversion dam construction. In many cases, a pipe carries diverted streamflow from the diversion dam, around the project site, to a location immediately downstream of the construction zone. The length of the dewatered stream channel varies, depending on the width of the road prism at the crossing. Fish may be allowed to move downstream through the diversion, when it is determined that entrapment will not occur. The access to the stream edge and diversion construction may impact a narrow cross section of riparian area, removing vegetation and exposing bare soil to erosion

Within-channel rerouting may occur when the stream channel is wide enough to accommodate rerouting within the active channel, at low flows, and the diversion path, which may include a pipe or one side of the existing channel, is essentially non-erosive. This method is typically associated with the construction of open-bottomed arches and bridges. The length of stream reroute will vary, depending on the width of the road prism at the stream crossing.

- Project sites will be dewatered and completely bypassed prior to excavation.
- Dewatering will be accomplished slowly to capture and move stranded fish and other aquatic organisms to the extent possible.
- Pumps will have a fish screen installed, and operated and maintained in accordance with NMFS fish screen criteria (Appendix F)
- Diversion dams will not be constructed with material mined from the stream or floodplain.
- Prior to constructing a water diversion, a fisheries biologist will conduct or direct an inspection of the stream and identify the appropriate means necessary to minimize the potential for fish to enter a constructed diversion and associated dewatering conveyance.
- Flow diversion around project site will be constructed using non-erodible material, such as a pipe, plastic to line a channel, or revegetated abandoned stream channel of appropriate size to accommodate peak flows that may be expected during construction may be used (including storm events).
- If streamflow is rerouted to one side of the existing channel, diversion structures, such as sandbags, cofferdams, or portable bladders constructed of non-erodible materials will be used
- Outflow will be directed to an area that minimizes or prevents erosion.
- If diversion inlet is not screened, the diversion outlet will be placed in a location that facilitates safe reentry of fish into the stream channel.
- If appropriate, water from the dewatering activities may be pumped to a temporary storage/treatment site, or into upland areas, and allowed to filter through vegetation prior to water reentering the stream channel.
- If a diversion channels is excavated, material will be stored at designated stockpile areas, for use in rehabilitating the excavated channel.

Construction and Earthmoving Activities

Stream simulation objectives mimic natural stream processes at a culvert removal site or at a stream crossing within a culvert, open-bottom arch, ford, or under a bridge. Fish passage, sediment transport, and flood and debris conveyance, within the structure, will imitate the stream 18

conditions upstream and downstream of the crossing, as close to natural conditions as the structure type allows (i.e. stream simulation). Stream simulation requires a high level of integration among specialists and requires input from the Project Design Team. Examples of stream simulation parameters are provided in the San Dimas Stream Simulation Design Training Manual (USDA FS 2004).

Machinery would typically operate from the road fill and only cross streams at dewatered areas, temporary bridges, or at designated temporary crossings. Earthmoving activities within the active stream channel would typically occur within a dewatered segment. In typical earthmoving activities associated with these actions, road fill is excavated around the crossing to just above the wetted perimeter in preparation for dewatering, although dewatering is sometimes conducted before excavation. Excavating equipment typically works from the road fill without disturbing

water flow or side-casting material into stream channels. Implementation of the following measures will minimize effects to ESA listed fish species.

Additional sediment or erosion barriers may be recommended by the PDT once construction commences. These could include Sedimat, straw bale retentions, and off-channel sediment settling ponds. In-channel sediment abatement barriers will capture sediment that is liberated during re-watering of dewatered channels, barriers will be removed, and captured sediment will be disposed of so it is not reintroduced into stream channels. Such barriers will be maintained throughout the related construction and removed only when construction is complete and erosion control is assured.

Grade control treatment may be included in project design based on site limitations (i.e. channel slope or bed material type), material availability, economics, land use, design competence or familiarity, and/or regulatory restrictions. Treatment alternatives that control grade so that incision is prevented (Castro 2003) can include large roughness element grade controls, rock and log weir grade controls, constructed step-pool and cascade grade controls, and sizing the culvert to contain the floodplain.

Removal of culverts involves removal of road fill immediately associated with existing culverts and is completed entirely within the dewatered work area. Road fill would be removed and stored at a designated stockpile site or hauled to a permanent waste area. At this point, the culvert would be removed, and the remaining material would be excavated down to streambed elevations. Excavation widths would vary depending on whether the culvert would be removed or replaced with a bankfull culvert, open-bottom arch, bridge footings, or trail ford. Excavating equipment would typically work from the road fill and cross the stream within the dewatered area or at a designated stream crossing. Excess groundwater may be removed from the work area by pumping to a settling area before discharging back into any water body. Headwalls may be applied to the culvert, arch, and bridge construction phases, outside of bankfull widths. Riprap placement for structure protection, and where needed to achieve passage objectives and maintenance of channel features, would be approved by the PDT. Concrete may be poured to provide bedding for squashed culverts in some instances**.**

Construction methods for open bottom arches typically include excavation of footing locations for either poured-in-place or pre-cast footings. Placement of forms or pre-cast footings, followed by pouring and curing of concrete would generally occur next. After substrate is placed, the arch is assembled and attached to the concrete footings.

Bridge construction, depending on design, may include the following: placement of substrate material and fill-slope riprap, beam placement, grout seam, build deck, form curbs, place guardrails and approach rails, and paving.

The stream channel and road fill down to the construction elevation would be exposed to potential erosion. Small amounts of sediment may be discharged into the stream, resulting in increased turbidity. However, mitigation measures will be implemented to minimize sediment delivery to the maximum extent possible. The stream channel and road fill down to the channel bed or construction elevation will be exposed to potential erosion.

- All projects will be conducted during low flow conditions, which typically occur from late summer through fall, to minimize effect to or delay of movement for ESA-listed species
- All in-stream and channel rehabilitation activities will be completed within one work season

- Prior to construction activities any visible plants, mud and dirt will be removed by washing machinery and equipment, well away from project area and will be dried thoroughly after decontamination.
- Conduct excavation with minimal impact to the active stream channel.
- Excavated material will be stored in designated stockpile areas.
- Waste material will be staged in designated locations or end hauled to approved disposal site.
- Machinery will operate from the road fill and cross streams at dewatered areas, temporary bridges, or at designated temporary crossings.
- Machinery, equipment, and materials will be stored in the staging areas, when not in use.
- In the event of local precipitation events or high flows, all project operations will cease, except efforts to minimize storm damage or excessive erosion,
- Native materials (*e.g.* substrate, riparian vegetation, rock, woody debris) excavated on-site, will be conserved and stockpiled for later use in channel reconstruction, filling of culverts, or other site rehabilitation and will be kept separate from other stockpiled material which is not native to the site.
- Stream channel and floodplain will be reconstructed in a manner which matches channel dimension, pattern, and profile for the stream type above and below the crossing.
- Large wood and/or boulders may be placed in the reconstructed stream channel and floodplain where natural conditions possess these attributes.
- Structure width shall be greater than or equal to the bankfull channel width (NMFS 2008; Bates 2003).
- Structure will be designed to accommodate general bed shape, channel forms, and elevations.
- Design crossings to accommodate at least 100-year flows, facilitate sediment and debris movement, and other valley and floodplain processes
- Simulate bed material and structure, bankfull cross-section, and slope of the natural channel to provide diverse avenues for passage by aquatic organisms.
- Design velocity, roughness and slope for swimming abilities of appropriate species
- Provide for wildlife and other AOP as necessary, to provide for overall ecological connectivity
- Decommissioning of routes will remove the former roadway or trail (including any imported road base), re-establish natural topography and drainage to the extent possible, incorporate available organic material, and in general, apply methods that accelerate site restoration and discourage unauthorized use.
- Equipment and vehicles will have all plant parts, soil, and other materials that may carry noxious weed seeds removed prior to entry onto the project site
- Equipment will be inspected for other undesirable aquatic organisms (aka aquatic nuisance species)
- Erosion control materials will be certified weed free in order to prevent the spread of noxious weeds.

Culverts and Open Bottom Arches

- Culverts would then be embedded with appropriate substrate from offsite locations, or suitable material would be used from a project stockpile.
- Properly sized and sorted substrate would be placed and compacted in lifts inside the culvert to the designed height.
- Culverts will be embedded at 20% or more, so that the stream bed at the widest part of the culvert and deep enough to account for scour, grade adjustments, footings, and bed integrity.
- Culverts will be designed to sufficient length to avoid fill failures or chronic erosion from fill.
- Infill material will consist of suitable material from a project stockpile, or may be hauled from an offsite location, provided the material is of similar characteristics of project site.
- Properly sized substrate will be placed and compacted in thin lifts to the required height within the footings.
- Fill will be placed in thin lifts or layers around structures, when reconstructing the road prism.

Language from the Biological Opinion

2.8.3 Reasonable and Prudent Measures

The Service concludes that the following reasonable and prudent measures (RPM) are necessary and appropriate to minimize the take of bull trout caused by the proposed action.

1. Minimize incidental take and site disturbance by appropriate consideration of alternative project designs and implementation methods during the streamlining process.
2. Minimize incidental take that occurs as a result of programmatic project implementation.
3. Establish a monitoring program on each Forest or Bureau District to confirm that projects implemented under this Program are meeting objectives of the programmatic consultation and are also not exceeding the amount and/or extent of take from permitted activities.

2.8.4 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service and Bureau of Land Management must comply with the following terms and conditions, which implement the reasonable and prudent measures described above:

1. To implement RPM #1 the Forest Service, Bureau, and Corps shall ensure the Project Design Team (PDT) seeks input and agreement from Level 1 Teams during design process and during pre-project reviews. The PDT shall remain flexible in the design process in order to adapt to various and unique site conditions and ensure the likelihood that completed projects meet programmatic objectives.
2. To implement RPM #2 the Forest Service, Bureau, and Corps shall ensure the following.
    a. Implement the following best management practices in addition to implementing all programmatic activities consistent with the project design criteria, activity types, and mitigation measures presented in the proposed action.

1. Determine, based on site characteristics, whether or not reducing stream flow in order to passively move fish out of the construction site prior to electroshocking would reduce the potential for take of bull trout associated with electroshocking. Prioritize this passive movement of fish as appropriate.
2. Electroshocking (where utilized) will be conducted with a three pass method to ensure the greatest level of fish salvage unless previously approved by the appropriate Level 1 Team to perform more or fewer passes.
3. Ensure that holding conditions for any transported fish provide the lowest level of stress to captured individuals by ensuring the availability of cold, well oxygenated water in holding vessels, minimizing holding time, and avoiding any predation in holding vessels. To avoid predation consider separate holding vessels for different age classes.
4. While block nets are set, inspect them regularly for fish and remove any living to an area far enough away from the crossing to avoid additional impingement risk.
5. Stream dewatering is not expected to last more than two weeks. If site specific conditions require dewatering and diverting the stream channel for longer than two weeks, Level 1 Teams shall be consulted to determine if additional measures are necessary to ensure that project effects are within those described in this Opinion.
6. For projects in bull trout spawning and rearing habitat, if in-stream work is required, in-stream work shall be completed by August 15th and in-stream work may not commence in the spring until May 1, to avoid potential effects to spawning bull trout, eggs, alevins, and fry. If site specific information and rationale (attached to the pre-project checklist) shows that these time frames can be adjusted without additional harm to bull trout, the Level 1 Team has the discretion to do so. Rationale for work in spawning areas in the spring prior to May 1 should also include site specific survey data that indicates bull trout did not spawn there the previous year.

b. The guidelines found at http://swr.nmfs.noaa.gov/pdf/Treated%20Wood%20Guidelines-FINALClean_2010.pdf (NOAA 2010) shall be used for any installation of treated wood if copper or creosote-based treatments are used. For other treated wood products, adhere to guidelines and BMPs in “Preservative-Treated Wood and Alternative Products in the Forest Service” (USFS 2006) and the Western Wood Preservers Institute “Best Management Practices for the Use of Treated Wood in Aquatic Environments” (1996).

c. Survey all proposed ford sites prior to design and implementation to evaluate the stream for potential bull trout spawning habitat and to ensure project design does not promote spawning at or immediately downstream of the proposed ford site.

d. Provide Level 1 Teams with a written rationale statement (attached to pre-project checklist) supporting any determination that overall impacts to stream channels will be reduced at crossing sites proposed for conversion to a ford.

e. If a temporary crossing is needed, the PDT will ensure that the designated temporary crossing area minimizes effects to fish and critical habitat.

1. Provide Level 1 Teams with a written rationale statement (attached to the pre-project checklist) as to why the temporary crossing is necessary and what steps are being taken to ensure effects are minimized.
2. The area shall be cleared of fish prior to equipment crossing, and the block nets will removed immediately after equipment crosses.
3. Minimize the frequency of crossings by equipment: Only allow equipment and vehicles to cross that are absolutely necessary.
4. Width of temporary crossings will be approximately 14 feet wide, the average road width of Forest Service roads.

3. To implement RPM #3 the Forest Service, Bureau, and Corps shall ensure the following.

a. All captured, handled and killed ESA-listed fish shall be identified, counted, and reported on the 'post-project checklist' (Appendix A).

b. The Action Agencies will implement a suspended sediment/turbidity monitoring program. Under the monitoring plan a reasonable sample of projects implemented under this consultation will be assessed to assure that the incidental take associated with suspended sediment and exempted in this Opinion has not been exceeded. At a minimum, 25 percent of projects completed under this Program will have monitoring completed that assesses the duration and intensity of turbidity. Monitoring can be adjusted as needed, but should consider the following recommendations.

1. Monitoring should occur above the site once for reference conditions before the project begins and prior to stream re-watering.
2. Monitoring should occur below the construction site where the bypass or stream diversion enters the stream and 600 feet below the site. Alternative sites may be chosen if 600 feet is excessive for a particular site.
3. Measurements shall be recorded at the following times: (a) Prior to re-watering the stream, and (b) every 30 minutes after re-watering for 4 hours or until turbidity decreases to background.

Appendix G

Detailed Schematics of Proposed Trailhead Facilities

Becker Integrated Resource Project

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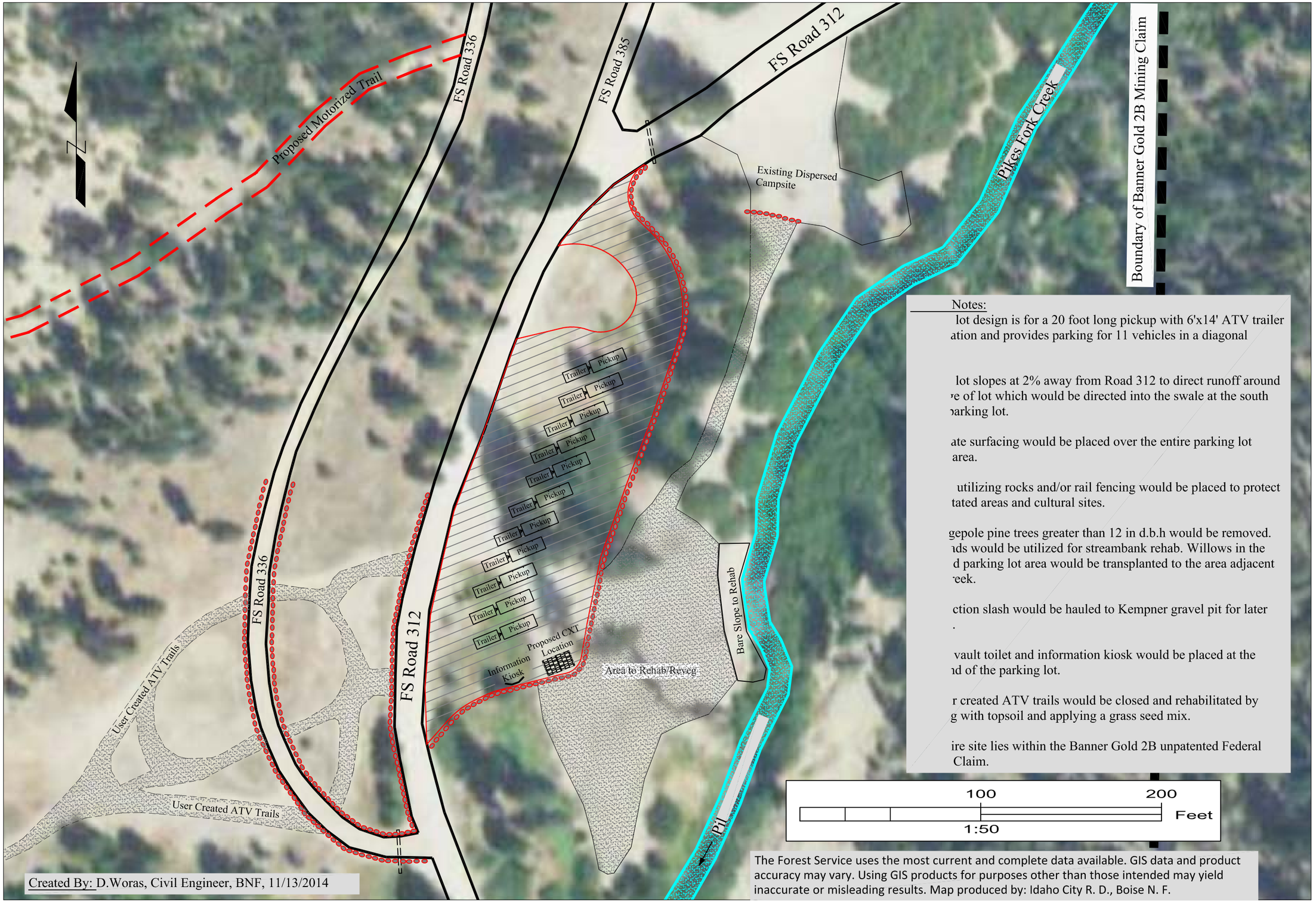


Notes:

lot design is for a 20 foot long pickup with 6'x14' ATV trailer
ation and provides parking for 11 vehicles in a diagonal

lot slopes at 2% away from Road 312 to direct runoff around
ɐe of lot which would be directed into the swale at the south
ɔarking lot.

ate surfacing would be placed over the entire parking lot
area.

utilizing rocks and/or rail fencing would be placed to protect
tated areas and cultural sites.

gepole pine trees greater than 12 in d.b.h would be removed.
ıds would be utilized for streambank rehab. Willows in the
d parking lot area would be transplanted to the area adjacent
ɾeek.

ction slash would be hauled to Kempner gravel pit for later
.

vault toilet and information kiosk would be placed at the
ıd of the parking lot.

r created ATV trails would be closed and rehabilitated by
g with topsoil and applying a grass seed mix.

ire site lies within the Banner Gold 2B unpatented Federal
Claim.

Created By: D.Woras, Civil Engineer, BNF, 11/13/2014

The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those intended may yield inaccurate or misleading results. Map produced by: Idaho City R. D., Boise N. F.

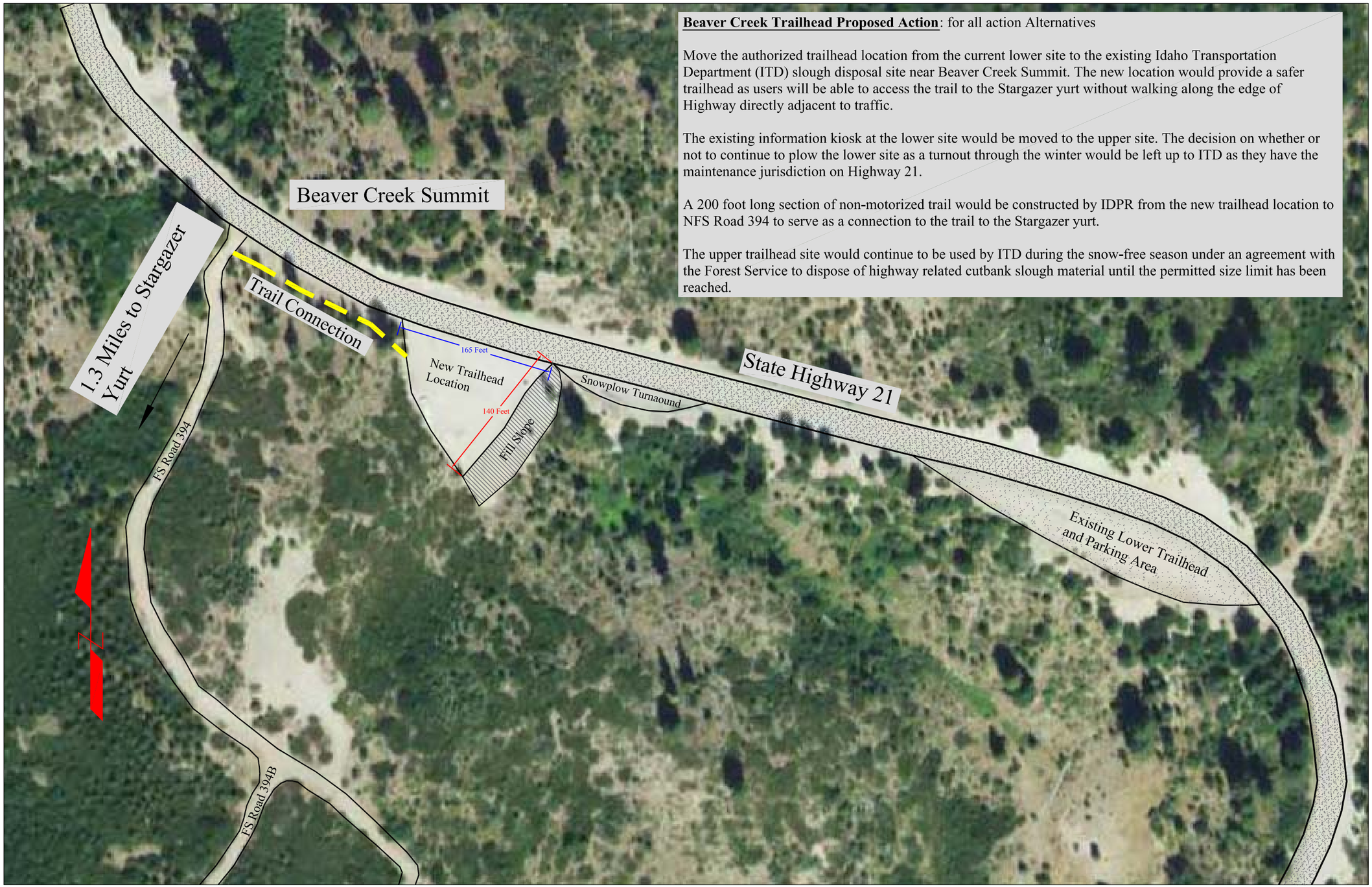
U. S. Department of Agriculture
FOREST SERVICE Engineering
Boise National Forest
REGION 4

DESIGN BY: D.Woras
CHECK: B.Barry
DRAWING BY: D.Woras
CHECK: B.Barry
DRAWING NUMBER:

Plan View of Pikes Fork Proposed Motorized Trailhead

Becker Integrated Resource Project

SHEET



Beaver Creek Trailhead Proposed Action: for all action Alternatives

Move the authorized trailhead location from the current lower site to the existing Idaho Transportation Department (ITD) slough disposal site near Beaver Creek Summit. The new location would provide a safer trailhead as users will be able to access the trail to the Stargazer yurt without walking along the edge of Highway directly adjacent to traffic.

The existing information kiosk at the lower site would be moved to the upper site. The decision on whether or not to continue to plow the lower site as a turnout through the winter would be left up to ITD as they have the maintenance jurisdiction on Highway 21.

A 200 foot long section of non-motorized trail would be constructed by IDPR from the new trailhead location to NFS Road 394 to serve as a connection to the trail to the Stargazer yurt.

The upper trailhead site would continue to be used by ITD during the snow-free season under an agreement with the Forest Service to dispose of highway related cutbank slough material until the permitted size limit has been reached.

Created By: Dave Woras, Civil Engineer, BNF, 12/08/2014

0 50 100 200 Feet

1:100

The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those intended may yield inaccurate or misleading results.
Map produced by: Idaho City R. D., Boise N. F.

U. S. Department of Agriculture
FOREST SERVICE
Boise National Forest
Engineering
REGION 4

DESIGN BY: D.Woras
DESIGN CHECK: B.Barry
DRAWING BY: D.Woras
DRAWING CHECK: B.Barry

DRAWING NUMBER:

Plan View of Beaver Creek Summit Proposed Trailhead Site

Becker Integrated Resource Project

SHEET

Appendix H:

Pikes Fork Trailhead Rehabilitation and Monitoring Plan

Becker Resource Integration Project

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The proposed new trailhead is adjacent to Pikes Fork (tributary to Crooked River) and is located in a previously disturbed site. Although Bull trout have not been detected (n-14) in Pikes Fork, this stream is US Fish and Wildlife Service (USFWS) designated critical bull trout habitat. Furthermore, the Bull Trout Recovery Plan identifies this creek as potential spawning and rearing habitat. The Becker Integrated Resource Project proposes to replace culverts that are currently barriers limiting access to spawning and rearing habitat. Restoring aquatic organism passage to reestablish bull trout populations is a priority objective for this creek.

Currently, riparian and instream conditions are degraded by dispersed uses, human foot traffic, and an unauthorized OHV ford which are eroding the streambanks and widening the stream at this location (Figure 1). Based on numerous field visits, the condition of this site is having localized and measurable/immeasurable negative effects on multiple Watershed Condition Indicators (WCI) (see sections 3.8 and 3.9 of the DEIS). This plan has been designed to rehabilitate current effects associated with the ongoing dispersed uses as well as mitigate potential effects expected from recreation uses under Alternatives B, C, D, E, and F. Implementing the restoration activities is expected to rapidly improve conditions in the temporary (0-3 years) and short-term (3-15 years) timeframes. Completion of the attached monitoring plan will validate if rehabilitation objectives and effects of the proposed trailhead are consistent with the analysis in this document over the long-term (>15 years) timeframe.

Rehabilitation objectives for riparian and stream conditions associated with the proposed Pikes Fork OHV Trailhead:

1. Streambank restoration along approximately 50 feet of Pikes Fork where streambanks are eroding and exposed soils are delivering sediment to the stream (Figure 2). This restoration will require reshaping the existing banks to reduce the bank angle and revegetation using willows, grasses, and sedges to increase bank cohesion.
2. Reshaping the trailhead parking area for appropriate drainage and blocking other access points to the stream with either barrier rock and/or riparian fencing throughout the site.

Before construction of the new trailhead can be implemented, rehabilitation of the previous disturbed site needs to be completed. Rehabilitation includes fencing along the Pikes Fork in the disturbed site and the new trailhead site, which should prevent human traffic and allow recovery of the streambank and streamside vegetation which are important to bull trout core habitat. Also, vegetation planting needs to occur in the disturbed site to expedite recovery of exposed soils near the streambank. In addition, the OHV crossing of Pikes Fork needs to be blocked to stop the negative effects of width/depth/max stream ratios associated with this crossing.

Figure 1. User-created ford across Pikes Fork Creek proposed to be blocked with fencing surrounding the riparian area.

Figure 2. Unstable stream bank proposed to be rehabilitated in conjunction with trail head construction

Monitoring Objectives:

The Forest will use the best management practices (BMP) monitoring evaluation for dispersed recreation uses (Rec B) from the National Core BMPs Program (USDA Forest Service 2012) to document site conditions for pre- and post-construction, as well as effectiveness of rehabilitation activities over time. These monitoring evaluations will be conducted every year for 3 years post-construction and then repeated once every 3 years. If monitoring results demonstrate degrading conditions over time, additional site management planning will be conducted to address impacts to aquatic/riparian resources.

The initial BMP monitoring evaluation conducted May 2015 is included in this appendix as Attachment A.

Pikes Fork Trailhead Monitoring Plan

Date: GPS Location:

Field Observer: Weather Conditions:

Distance from Trailhead to Pikes Fork:

Field Review Questions:

1. Specific to the trailhead facilities and implemented riparian and stream restoration activities, are there any unresolved maintenance needs to reduce impacts to water, aquatic, or riparian resources?
2. What is the condition of fencing along Pikes Fork?
3. Is there evidence of erosion or sedimentation along the Pikes Fork streambank?
4. In total, how many places do you observe erosion and sedimentation along the Pikes Fork streambank?
5. For all occurrences of erosion and sedimentation in Pikes Fork identified in question 4, what is the evidence? Select all that apply?
   a. Turbidity present
   b. Evidence of localized sediment deposition in the waterbody
   c. Changes to substrate composition
   d. Changes to waterbody geometry (width, depth, meander patterns, bank or bed slope, etc.)
   e. Streambank instability
   f. Streambank trampling or compaction
   g. Vegetation damage or bare ground
   h. Sheet erosion
   i. Rill erosion
   j. Gully erosion
   k. Slumping/slips
   l. Mass wasting
   m. Sediment plumes or accumulations
   n. Rutting
   o. Other
6. What are the sources (user-created trail, road or parking area, etc.)?
7. Are additional restoration activities needed to achieve riparian and instream rehabilitation objectives?

Attachment A:

Initial BMP Monitoring Evaluation

Becker Integrated Resource Project

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Best Management Practices Evaluation

Rec B. Dispersed Recreation Areas

(Reference BMPs Rec-1, Rec-3, and Rec-4)

DRAFT v2.1 January 2015

Header (2 pages)

1. Type of review being performed. Select one:

(Implementation) | Effectiveness | Both Implementation and Effectiveness

Follow-up Implementation | Follow-up Effectiveness | Follow-up Implementation and Effectiveness

2. If current review is for an initial evaluation of effectiveness only, what was the date of the implementation review for this site?

3. If current review is a follow-up evaluation, what was the date of the most recent evaluation?

4. Date of current field evaluation: 5/20/15

5. If this is a follow-up evaluation, describe all of the corrective actions that were applied to protect or improve water quality since the initial evaluation:

6. If this is a follow-up evaluation, describe all of the adaptive management actions that were applied to protect or improve water quality since the initial evaluation:

7. Reviewers and Titles: Brian Anderson - Hydrologist
Scott Brandt - Fish Biologist
Terry Hardy - Soil Scientist, Watershed Program Mgr.

8. Region number: 04

9a. Proclaimed Forest or Grassland number and name: Boise - 02

9b. Administrative Forest or Grassland number and name: Boise - 02

10. District number and name: Idaho City - D3

11a. Reason for monitoring. Select all that apply:

National BMP Targets | Land Management Plan Monitoring | (Project Review) | Quality Assurance | Other (specify):

11b. Was the project/site selected randomly from the pool developed using the National BMP Monitoring Program instructions that correspond to this form? Select one:

a. Yes
b. (No)

If No, describe the procedures used to select the project/site:

Selected because of ongoing planning efforts.

Best Management Practices Evaluation

11c. Will the project/site be evaluated using the procedures described in the National BMP Monitoring Program instructions that correspond to this form (e.g., evaluating the appropriate areas or transects, etc.)? Select one:

a. Yes
b. No

If No, describe the procedures that will be used to evaluate the project/site or how they will differ from the procedures in the instructions:

Site was evaluated based on observed impacts to document existing conditions and provide baseline information relative to proposed changes associated with planning efforts.

12. 6th level HUC number and name for the subwatershed this dispersed recreation area is in:

Pikes Fork 170501110503

13. Is any part of the dispersed recreation area that is being evaluated located within a municipal supply watershed?

Select one: Yes No

14a. Location. UTM Zone:	14b. Location. Easting:	14c. Location. Northing:	15a. Location. Latitude:	15b. Location. Longitude:	15c. Location. Lat/Long Datum:
11 N UTM Datum: WGS 83	614722.8	4870970	43.982258°	-115.548084°	

16. Wet weather conditions during the field evaluation and the 24 hours before the evaluation. Select all that apply:

Rain | Snow | Snowpack on the ground | Melting snow | Hail/ sleet | Freezing rain/ freezing fog | Other (specify): | Unknown

17. Name of area:

Pikes Fork

18. Dates this area is normally available for use (month to month):

May - November

19. Was this area used for a special event during the past 12 months?

Select one: Yes No

If Yes, give the name of event and dates of event:

20. What are the primary recreation uses at this area? Select all that apply:

Camping | Swimming | Picnicking | Hunting | Fishing | Rock climbing | Other (specify):

21. Are sanitation facilities available at this area?

Select one: Yes No

22. Approximate size of area (ac, ha, m^2 or ft^2; specify unit):

2 acres

23. Is any part of this area located within an AMZ? Select one: Yes | No | Waterbody has no designated AMZ

24. Distance from area to nearest waterbody (ft or m; specify unit):

0 ft, Pikes Fork Creek

25. Type of waterbody adjacent to the waterbody transect. Select all that apply:

Ephemeral stream | Intermittent stream | Perennial stream/river | Pond | Lake | Wetland/ wet meadow | Estuary | Other (specify):

Best Management Practices Evaluation

Implementation (4 pages)

26. Are there any unresolved maintenance needs related to water, aquatic, or riparian resources that were identified for this dispersed recreation area prior to this evaluation? Select one:

    a. (Yes)
    b. No

    If Yes, what needs were unresolved?

    DRAINAGE, EXPANSION, ACCESS, STREAM BANK ENCROACHMENT OHV CROSSING CREEK, CHANNEL IS WIDENED/DEGRADED, FIREWOOD GATHERING

27. Does the operation and maintenance plan or other operation and maintenance guidance documents for this use area contain provisions for protecting water, aquatic, and riparian resources? Select one:

    a. Yes, the plan or other O&M guidance documents contain provisions for water/aquatic/ riparian protection (go to question 28)
    b. Plan or other O&M guidance documents exist for this area, but they do not contain provisions for water/aquatic/riparian protection (go to question 29)
    c. No operation and maintenance plan or other O&M guidance documents exist for this area (go to question 29)

28. Indicate if provisions to protect water, aquatic, and riparian resources in the list below that were included in the operation and maintenance plan or other O&M guidance documents were implemented fully during this operating season. Select one response in each line. If the provision exists in the operation and maintenance plan or other guidance documents and it was implemented fully, select "Yes". If the provision exists in the operation and maintenance plan or other guidance documents but it was not implemented fully, select "No". If the provision does not exist in the operation and maintenance plan or other guidance documents, or it is too early in the operating season to require implementation, select "Not applicable".

a.	Locations and spacings of cross drains on trails (e.g., waterbars)	Yes	No	Not applicable
b.	Cross drain techniques	Yes	No	Not applicable
c.	Trail grades	Yes	No	Not applicable
d.	Trail surfacing	Yes	No	Not applicable
e.	Trail locations	Yes	No	Not applicable
f.	Waterbody crossing techniques	Yes	No	Not applicable
g.	Mulching and/or seeding, or other soil cover techniques	Yes	No	Not applicable
h.	Locations and numbers of trash receptacles	Yes	No	Not applicable
i.	Trash receptacle maintenance	Yes	No	Not applicable
j.	Permanent sanitation facilities	Yes	No	Not applicable
k.	Temporary (portable) sanitation facilities	Yes	No	Not applicable
l.	Maintenance requirements for roads and access routes	Yes	No	Not applicable
m.	Maintenance requirements for parking areas	Yes	No	Not applicable
n.	Water supply/delivery system maintenance	Yes	No	Not applicable
o.	Invasive species control	Yes	No	Not applicable
(p.)	Other (specify): Not Applicable	Yes	No	Not applicable

For any provisions you answered "No", briefly explain how implementation is deficient:

29. Were inspections during this operating season performed at critical times for addressing water quality issues? Select one:

    (a.) Not applicable, no inspections were performed
    b. Yes
    c. No LOOKING AT DURING BEFORE PROJECT PLANNING

Best Management Practices Evaluation

30. If problems occurred during this operating season that affected or potentially may have affected water, aquatic, or riparian resources, were corrective actions taken to reduce or eliminate the problems? Select one:
    a. No problems occurred so no corrective actions were needed
    b. Corrective actions were needed but not taken
    c. Corrective actions were needed and implemented

31. Has the dispersed recreation area or portions of it been closed, or have restrictions been placed on use during the past 5 years to protect or restore water, aquatic, or riparian resources? Select one:
    a. Not applicable, no problems warranted closure or use restriction (go to question 33)
    b. Needed and closed or use restricted (go to question 32)
    c. Needed but not closed or use not restricted (go to question 33)

32. What length of time passed between when the problem was identified and the closure or use restriction was implemented? (days, weeks, months, or years; specify unit):

33. Were any treatments applied to this dispersed recreation area during the past 5 years to reduce negative impacts to water, aquatic, or riparian resources? Select one:
    a. Not applicable, no problems warranted application of treatments (go to question 35)
    b. Needed and applied (go to question 34)
    c. Needed but not applied (go to question 35)

    If applied, describe the treatments:

34. What length of time passed between when the problem was identified and the treatment was applied? (days, weeks, months, or years; specify unit): Not Applicable

35. Why was the area closed, use restricted, and/or treatments applied? Select all that apply:
    a. Not applicable, no closure, use restriction, or treatments applied during the past 5 years
    b. Trampled vegetation
    c. Soil compaction
    d. Sheet erosion
    e. Rill erosion
    f. Gully erosion
    g. Shoreline/bank erosion
    h. Road washout
    i. Washout in use area
    j. Water quality in waterbody
    k. Extreme precipitation/weather event
    l. Other (specify):

36. Were chemical or fuel spills or leaks, or dumping that occurred at this dispersed area during the past 5 years handled/treated according to the contingency and emergency response plan? Select one:
    a. Not applicable, the Forest or Grassland has no contingency and emergency response plan
    b. Not applicable, no spills, leaks, or dumping occurred during the last 5 years
    c. Yes, spills, leaks, or dumping were handled/treated according to the contingency and emergency response plan
    d. No, spills, leaks, or dumping were not handled/treated according to the contingency and emergency response plan

37. Are any corrective actions needed to improve implementation? Select one:
    a. Yes (go to question 38)
    b. No (go to question 39)

Best Management Practices Evaluation

38. Provide information about corrective actions needed to improve implementation, and reference the question number to which each correction applies.

- OHV CROSSING (FORD) NEEDS BLOCKED
- UNVEGETATIVE & UNSTABILIZED STREAMBANK NEEDS REPAIR
- EROSION CONTROL / REVEG. / RESTRICT ACCESS
- RECOMMEND FENCING AND SIGNING TO RESTRICT ACCESS
- PARKING AREA NEEDS MAINTENANCE (GRADING, SURFACING MATERIAL)

Best Management Practices Evaluation

39. Are any adaptive management actions needed to improve implementation? Select one:
    a. Yes (go to question 40)
    b. No (go to question 41 if effectiveness is to be evaluated at this time; otherwise go to General Comments)

40. Provide information about adaptive management actions needed to improve implementation, and reference the question number to which each action applies. Go to question 41 if effectiveness is to be evaluated at this time; otherwise go to General Comments after answering this question.

TAKE THE RECOMMENDATIONS FROM #38 AND IMPLEMENT, THEN MONITOR FOR A PERIOD OVER TIME.

Best Management Practices Evaluation

Effectiveness (5 pages)

41. Is there evidence of erosion or sedimentation along the waterbody transect from the use of this dispersed area? Select one; when multiple occurrences would yield different answers, select the most severe occurrence, with severity increasing from b to c.

    a. No evidence of erosion or sedimentation (go to question 46)
    b. Evidence of erosion or sedimentation, but not reaching the waterbody (go to question 43)
    c. Evidence of sediment transport to or deposition in the waterbody, or evidence of changes to waterbody morphology (go to question 42)

42. How many total places do you observe erosion or sedimentation delivered to/present in the waterbody and changes to waterbody morphology? Select one:

    a. 1 or 2
    b. 3 or 4
    c. 5 or more

43. For all of the occurrences of erosion and sedimentation in the area you identified in question 41, what is the evidence? Select all that apply:

    a. Traceable evidence to the waterbody, but not currently visible in the waterbody
    b. Turbidity present
    c. Evidence of localized sediment deposition in the waterbody
    d. Changes to substrate composition
    e. Changes to waterbody geometry (e.g., width, depth, meander patterns, bank or bed slope, etc.)
    f. Bank instability
    g. Bank trampling or compaction
    h. Vegetation damage or bare ground
    i. Sheet erosion
    j. Rill erosion
    k. Gully erosion
    l. Headcutting
    m. Slumping/slips
    n. Mass wasting
    o. Sediment plumes or accumulations
    p. Rutting
    q. Water quality monitoring results ? BULP
    r. Other (specify):

44. What are the sources? Select all that apply:

    a. Dispersed camping area
    b. Forest Service-created trail
    c. User-created trail
    d. Road or parking area
    e. Other (specify):
    DISPLACED ACCESS TO STREAM (PUBLIC SWIMMING AREA)

45. What are the causes? Select all that apply:

    a. Use is exceeding carrying capacity of the area
    b. Inappropriate location of the use area
    c. Inappropriate location of trails USER CREATED
    d. Inappropriate trail design
    e. Lack of trail maintenance
    f. Insufficient number of trails to the waterbody
    g. Too many trails to the waterbody
    h. Watercraft use or wave action
    i. Runoff from road or parking area
    j. Other (specify):

    k. Unknown

46. What evidence of trash or domestic animal or human sanitary waste exists along the waterbody transect? Select all that apply:

    a. No evidence of trash or domestic animal or human sanitary waste (go to question 48)
    b. Evidence of trash within the AMZ (go to question 47)
    c. Evidence of trash in the waterbody (go to question 47)
    d. Evidence of domestic animal or human sanitary waste/toilet paper within the AMZ (go to question 47)
    e. Evidence of domestic animal or human sanitary waste/toilet paper in the waterbody (go to question 47)

Best Management Practices Evaluation

47. What are the causes? Select all that apply:
    - a. Insufficient number of waste receptacles
    - b. Waste receptacles not emptied frequently enough
    - c. Use is exceeding carrying capacity of the area
    - d. Insufficient number of toilet facilities
    - e. Toilet facilities are not functioning properly
    - f. Inconsiderate human actions
    - g. Other (specify): NO SANITATION FACILITIES AVAILABLE

48. What is the total length of the waterbody transect? (ft or m; specify unit):

49. What percentage of the length of the waterbody transect has evidence of potential or current impacts to water quality? (percent):
    50 %

50. Is there evidence of erosion or sedimentation on or originating from the trails that connect the dispersed area to AMZs or waterbodies? Select one; when multiple occurrences would yield different answers, select the most severe occurrence, with severity increasing from c to e.
    - a. Not applicable, no connecting trails (go to question 62)
    - b. No evidence of erosion or sedimentation (go to question 56)
    - c. Evidence of erosion or sedimentation outside an AMZ (go to question 52)
    - d. Evidence of erosion or sedimentation within an AMZ, but not reaching a waterbody (go to question 52)
    - e. Evidence of sediment transport to or deposition in a waterbody, or evidence of changes to waterbody morphology (go to question 51)

51. How many total places do you observe erosion or sedimentation delivered to/present in a waterbody and changes to waterbody morphology? Select one; after answering go to question 53:
    - a. 1 or 2
    - b. 3 or 4
    - c. 5 or more

52. What is the shortest distance between the evidence and the waterbody? Select one:
    - a. ≤10 feet
    - b. >10 to 50 feet
    - c. >50 to 100 feet
    - d. >100 feet

53. For all of the occurrences of erosion and sedimentation observed within the area you identified in question 50, what is the evidence? Select all that apply:
    - a. Traceable evidence to the waterbody, but not currently visible in the waterbody
    - b. Turbidity present
    - c. Evidence of localized sediment deposition in the waterbody
    - d. Changes to substrate composition
    - e. Changes to waterbody geometry (e.g., width, depth, meander patterns, bank or bed slope, etc.)
    - f. Bank instability
    - g. Bank trampling or compaction
    - h. Vegetation damage or bare ground
    - i. Sheet erosion
    - j. Rill erosion
    - k. Gully erosion
    - l. Headcutting
    - m. Slumping/slips
    - n. Mass wasting
    - o. Sediment plumes or accumulations
    - p. Rutting
    - q. Water quality monitoring results
    - r. Other (specify):

54. What are the sources? Select all that apply:
    - a. Dispersed camping area
    - b. Forest Service-created trail
    - c. User-created trail
    - d. Road or parking area
    - e. Other (specify):

Best Management Practices Evaluation

55. What are the causes? Select all that apply:
    a. Use is exceeding carrying capacity of the use area and/or trails
    b. Inappropriate location of trails
    c. Inappropriate trail design
    d. Lack of trail maintenance
    e. Insufficient number of trails to the waterbody
    f. Too many trails to the waterbody
    g. Other (specify):

56. What evidence of trash or domestic animal or human sanitary waste exists on or along the trails that connect the dispersed area to AMZs or waterbodies? Select all that apply:
    a. No evidence of trash or domestic animal or human sanitary waste (go to question 58)
    b. Evidence of trash outside an AMZ (go to question 57)
    c. Evidence of trash within an AMZ (go to question 57)
    d. Evidence of trash in a waterbody (go to question 57)
    e. Evidence of domestic animal or human sanitary waste/toilet paper outside an AMZ (go to question 57)
    f. Evidence of domestic animal or human sanitary waste/toilet paper within an AMZ (go to question 57)
    g. Evidence of domestic animal or human sanitary waste/toilet paper in a waterbody (go to question 57)

57. What are the causes? Select all that apply:
    a. Insufficient number of waste receptacles
    b. Waste receptacles not emptied frequently enough
    c. Use is exceeding carrying capacity of the area and/or trails
    d. Insufficient number of toilet facilities
    e. Toilet facilities are not functioning properly
    f. Inconsiderate human actions
    g. Other (specify):

58. How many trails were reviewed in this evaluation?

59. How many of the trails that were reviewed were user created?

60. What is the total length of trails evaluated? (ft or m; specify unit):

61. What is the total length of user-created trails evaluated? (ft or m; specify unit):

62. What evidence of chemical or fuel spills or leaks or associated waste containers exists at the area? Select all that apply:
    a. No evidence of chemical or fuel spills, leaks, or associated waste containers
    b. Evidence of chemical or fuel spills or leaks outside an AMZ
    c. Evidence of chemical or fuel spills or leaks within an AMZ
    d. Evidence of chemical or fuel spills or leaks in a waterbody
    e. Evidence of chemical or fuel waste containers outside an AMZ
    f. Evidence of chemical or fuel waste containers within an AMZ
    g. Evidence of chemical or fuel waste containers in a waterbody

63. Did any of the unresolved maintenance needs for this dispersed recreation area contribute to any observed problems? Select one:
    a. Not applicable, no unresolved maintenance needs existed for this area
    b. Yes
    c. No

64. If inspections were not conducted at critical times during this operating season, did the lack of administration contribute to observed problems? Select one:
    a. Not applicable, inspections were conducted at critical times
    b. Yes
    c. No

65. If the area was closed, use was restricted, and/or treatments were applied during the past 5 years to protect or restore water, aquatic, or riparian resources, were the desired results achieved? Select one:
    a. Not applicable; no area closures, use restrictions, and/or treatments applied during the past 5 years
    b. The desired result was fully achieved
    c. The desired result was partially achieved
    d. Essentially no improvement to the area was achieved
    e. Too soon to determine

66. Are any corrective actions needed to improve effectiveness? Select one:
    a. Yes (go to question 67)
    b. No (go to question 68)

Best Management Practices Evaluation

67. Provide information about corrective actions needed to improve effectiveness, and reference the question number to which each correction applies.

Best Management Practices Evaluation

68. Are any adaptive management actions needed to improve effectiveness? Select one:
    a. Yes (go to question 69)
    b. No (go to General Comments)

69. Provide information about adaptive management actions needed to improve effectiveness, and reference the question number to which each action applies. Go to General Comments after answering this question.

Best Management Practices Evaluation

General Comments

Appendix I:

Project-Specific Non-Significant Amendment and Corrections (i.e., Errata)

of

Boise National Forest

Land and Resource Management Plan

Becker Integrated Resource Project

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BACKGROUND INFORMATION

Proposed Amendments and Corrections

Amendments to Visual Quality standard 0763 in Management Area (MA) 07 of the Boise National Forest Land and Resource Management Plan (Forest Plan) is proposed to both modify current requirements adjacent to Highway 21 and to add new visual quality requirements around the new motorized trail proposed to be designated in all action alternatives except Alternative E, around all non-motorized trails proposed to be authorized under all action alternatives, as well as from areas seen from the existing 5 yurts within or immediately adjacent to the project area.

Standards are binding limitations placed on management actions. Standards are typically action restrictions designed to prevent degradation of resource conditions, or exceeding a threshold of unacceptable effects, so that conditions can be maintained or restored over time. However, exceptions are made in some cases to allow temporary or short-term degrading effects in order to achieve long-term goals (e.g., SWRA Resources Standard #04). Standards must be within the authority and ability of the Forest Service to enforce. A project or action that varies from a relevant standard may not be authorized unless the Forest Plan is amended to modify, remove, or waive application of the standard.

Forest Service Visual Management System

The goal of landscape management on all NFS lands is to manage for the highest possible visual quality, commensurate with other appropriate public uses, costs, and benefits. Since the mid-1970s, the Forest Service has utilized the Visual Management System (VMS)[1] to measure the inherent scenic quality of any forest area and a measurement of the degree of alteration for use in inventory and management. Through the Forest Plan[2], the VMS continues to provide the Boise National Forest (Forest) with direction for management of the scenic environment.

Visual Quality Objectives and Distance Zones

Visual Quality Objectives (VQOs), as defined within the VMS, are measurable standards or objectives for the visual management of Forest lands. VQOs define how the landscape will be managed, the level of acceptable modification permitted in the area, and under what circumstances modification may be allowed. VQOs are defined as follows:

- Preservation—untouched environment, typically Wilderness
- Retention—not visually evident
- Partial Retention—visually subordinate
- Modification—visually dominant but harmonious
- Maximum Modification—dominant impact

[1] USDA Forest Service. 1974. National Forest Landscape Management. Vol. 2. The Visual Management System. Agricultural Handbook 462. Washington, DC: USDA Forest Service.
[2] USDA Forest Service. 2010. Boise National Forest Land and Resource Management Plan. Boise, ID: USDA Forest Service, Boise National Forest.

The project area includes all VQOs except **Preservation**. The Forest Service provides the following definitions (for this proposal) for ***Retention, Partial Retention****, and* ***Modification*** VQOs[3][4]:

> *Retention: Results of management activities are not evident to the casual Forest visitor. The activity must be well integrated to blend nearly completely with the landscape or be screened. The vegetative clearings for ski runs and lifts…would not be visually evident to the casual Forest visitor. The clearings repeat form, line, and texture from the surrounding vegetative patterns to achieve the Retention quality objective.*
>
> *Partial Retention: Allows results of management activities to be visible, but not recognized as an unnatural occurrence and as a visual subordinate to the characteristic landscape. Activities may introduce form, line, color, or texture, which are found infrequently or not at all in the characteristic landscape, but they should remain subordinate to the visual strength of the characteristic landscape.*
>
> *Modification: Results of management activities may be seen and dominate the characteristic landscape, but they should repeat natural patterns of the surrounding area or character type so that they eventually appear as a natural occurrence. Activities which are predominantly introduction of facilities such as buildings, signs, roads, etc., should borrow naturally established form, line, color and texture so completely and at such a scale that its visual characteristics are compatible with the natural surroundings.*

In addition to proposed amendments to Visual Quality Standard 0763 discussed above, a correction will be completed to Forest Plan MA 07 to correct an error concerning Forest Plan objectives that were not included in this management area. As discussed below, this includes adding 5 new objectives in this management area and removing one objective from MA 08, which should have only been included in MA 07,

Objectives are concise time-specific statements of actions or results designed to help achieve goals. Objectives form the basis for project-level actions or proposals to help achieve Forest goals. Like goals, objectives are typically designed to maintain conditions if they are currently within their desired range, or restore conditions to their desired range if they are currently outside that range. The timeframe for accomplishing objectives, unless otherwise stated, is generally considered to be the planning period, or the next 10 to 15 years. More specific dates are not typically used because accomplishment can be delayed by funding, litigation, environmental changes, and other influences beyond the Forest's control.

PROJECT SPECIFIC FOREST PLAN AMENDMENT AND CORRECTIONS

The following section first discloses the changes to existing Forest Plan management direction for visual quality management within MA 07. This discussion is followed by the discussion concerning corrections to be made to MAs 07 and 08.

[3] USDA Forest Service. 1974. National Forest Landscape Management. Vol. 2. The Visual Management System. Agricultural Handbook 462. Washington, DC: USDA Forest Service.
[4] USDA Forest Service. 2010. Boise National Forest Land and Resource Management Plan. Boise, ID: USDA Forest Service, Boise National Forest.

Mapped or adopted VQOs within the Project Area include **Retention**, **Partial Retention**, **Modification**, and **Maximum Modification**. The proposed VQO changes are project area-specific rather than wholly inclusive of the entire Forest segment of the Highway 21 scenic byway corridor. This narrowed focus is necessary because Forest-level VQO mapping can only occur at a broad scale (those that are currently mapped or adopted) and a more detailed project-level VQO analysis (or ground-truthing) occurs on a project-by-project basis. As noted in the VMS for the Forest, "The VQOs mapped in this inventory should never be regarded as infinitely complete, but rather as general guidance to be used and supplemented routinely. It is expected that during any project-level assessment, a perceptive observer will modify or refine the mapped inventory data to best reflect on-the-ground conditions."

The appropriate VQO for the foreground distance zone (defined as within 0.5 miles) of a primary travel route/scenic byway with an associated high level of adjacent recreational developments (including Project Area trailheads along State Highway 21, cabins, campgrounds, and yurts) is **Partial Retention** due to their relative/typical development levels compared to the natural characteristic landscape. These are further described above in Travel Routes and Use Areas.

Further recreational development was anticipated within and along this corridor in the 2010 Forest Plan:

Objective 0844*—Identify and evaluate opportunities along the Highway 21 corridor to improve recreation opportunities and experiences through additional parking, trails and trailhead facilities, and yurts, as well as improvements to existing recreation facilities.*

As described above, the existing and proposed level of development within this area, currently mapped as **Retention**, is completely compatible and consistent with the proposed **Partial Retention** VQO. Correcting these mapping errors through a VQO update will not affect how these sites are managed but will bring these sites into appropriate VQO compliance.

Per the Forest Plan as amended in 2010, all projects on the Forest shall be designed to meet the adopted VQOs as displayed on the Forest VQO map (USDA Forest Service 2010a). In conjunction with this analysis, the Forest Landscape Architect analyzed existing developments within the Project Area and found several specific sites—Whoop-Um-Up, Banner Ridge, Lamar, and Gold Fork Trailheads; the Edna Creek and Whoop-Um-Up Campgrounds; the Whispering Pines, Stargazer, Banner, Elkhorn, Skyline, and Rocky Ridge Yurts; and the Beaver Creek Cabin—to be incompatible with the exiting inventoried VQO of ***Retention***, as defined below. The management and level of development of each of these sites are each fully conforming with a **Partial Retention** VQO.

Proposed Forest Plan Amendment #1

MA 7 VQO table (Table 1) associated with Forest Plan standard 0763 would be amended (bolded portion) to provide the following VQOs for the

- 23.3 miles of designated motorized trail for vehicle less than or equal to 50 inches width (all action alternatives, except Alternative E),
- 60.2 miles of authorized nonmotorized over-snow tail route miles (all action alternatives),
- 41.3 miles of authorized nonmotorized trails for non-snow period use**,** and
- Areas as viewed from the existing Whispering Pines, Stargazer, Skyline, Banner Ridge and Elkhorn yurts.

Black text is existing Forest Plan direction for recreation trails and roads within this Forest Plan management area, blue text is the proposed changes/additions for new motorized trails to be designated and existing non-motorized trails and yurt systems operated under a cost-share agreement with Idaho State Parks and Recreation (IDPR) to be authorized as an National Forest System (NFS) trail to allow for use of federal recreation dollars to support trail management per ongoing agreements with IDPR.

Table 1. Proposed Amendments to standard 0763 in the Forest Plan concern Visual Quality Objectives around visually sensitive areas. This table displays additions proposed and does not change the existing requirements in the Table displayed in Forest Plan Management Area 07

Standard	0763	Meet the visual quality objectives as represented on the Forest VQO Map, and where indicated in the table below as viewed from the following areas/corridors:

Sensitive Travel Route Or Use Area	Sensitivity Level	Visual Quality Objective								
		Fg			Mg			Bg		
		Variety Class			Variety Class			Variety Class		
			B	C	A	B	C	A	B	C
Forest Trails 051, 158, 197	1	R	R	PR	R	PR	PR	R	PR	M
Edna Creek, Black Rock Campgrounds	1	R	R	PR	R	PR	PR	R	PR	M
Forest Roads 312, 316, 327, 348, 384	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Roads 315, 333, 351	2	M	M	M	M	M	M	M	M	MM
Forest Trails 048, 049, 166, 167, 168, 169	2	M	M	M	M	M	M	M	M	MM
Forest Trail 171	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Trails, non-motorized summer: 700 - 730	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Trails, non-motorized winter: 700-730	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Trails, motorized summer:,731-769 [Not applicable to Alternative E]	2	M	M	M	M	M	M	M	M	MM
Yurts: Whispering Pine, Stargazer, Skyline, Banner Ridge and Elkhorn	2	PR	PR	M	PR	M	M	PR	M	MM

Proposed Forest Plan Amendment #2

To further achieve Purpose #1 along Highway 21, MA 7 VQO retention requirements along Highway 21 identified in standard 0763 would be amended to allow for partial retention requirements for that section of the highway that fall between Banner Ridge south to Whoop-um Up trailhead. The retention requirement would continue to apply for all other sections along Highway 21 outside north and south of this segment of the highway in MA 7. Black text is existing, blue text is proposed change.

Standard	0763	Meet the visual quality objectives as represented on the Forest VQO Map, and where indicated in the table below as viewed from the following areas/corridors:

Sensitive Travel Route Or Use Area	Sensitivity Level	Visual Quality Objective								
		Fg			Mg			Bg		
		Variety Class			Variety Class			Variety Class		
		A	B	C	A	B	C	A	B	C
Highway 21, except as identified below from Banner Ridge South to Whoop-um Up Trailhead	1	R	R	PR	R	PR	PR	R	PR	M
Highway 21 from Banner Ridge South to Whoop-um Up Trailhead	1	PR	PR	PR	PR	PR	PR	PR	PR	M

Proposed Forest Plan Errata

The following management area objectives currently located in MA 8 should have also been included in MA 07, or in MA 07 only (see objective introduction below). Thus, the following updates to Forest Plan Management Area 7 direction would be completed as part of Alternative B.

MA 08, Recreation Objective 0844 should have been applied to both MA 7 and MA 8 based on the area/location description in the objective.

Objective	0770	Identify and evaluate opportunities along the Highway 21 corridor to improve recreation opportunities and experiences through additional parking, trails and trailhead facilities, and yurts, as well as improvements to existing recreation facilities.

MA 08, Recreation Objective 0841 should have been applied to both MA 7 and MA 8 based on the area/location description in the objective.

Objective	0771	Minimize conflicts between backcountry skiers and snowmobilers arising from increased winter recreation use in the upper Mores Creek/Pilot Peak area.

MA 08, Recreation Objective 0843 should have been applied to both MA 7 and MA8 based on the area/location description in the objective.

Objective	0772	Continue to coordinate with Counties (Boise/Elmore) and other groups related to grooming trails for over-snow activities to maintain these winter recreation opportunities.

MA 08, Recreation Objective 0845 should have been in MA 7 and not in MA8 based on the area/location description in the objective.

Objective	0773	Protect the groomed cross-country ski system from the Gold Fork parking lot to Beaver Creek Summit from damage by unauthorized snowmobile use.

MA 08, Recreation Objective 0850 should have been applied to both MA 7 and MA8 based on the area/location description in the objective.

Guideline	0774	Continue coordination with the State of Idaho on management of park-and-ski areas to maintain winter recreation opportunities.

POLICY AND ANALYSIS

As identified above, the corrections to objectives identified above was an error and thus is not be viewed as a Forest Plan amendment that needs to be considered in this policy and analysis section. Thus, the discussion below only pertains to the proposed amendments to VQOs along Highway 21 from Banner Ridge south to Whoop-um-Up trailhead.

Under the National Forest Management Act (NFMA, 16 USC 1604(f)(4)), forest plans may "be amended in any manner whatsoever after final adoption and after public notice, and, if such amendment would result in a significant change in such plan, be in accordance with subsections (e) and (f) of this section and public involvement comparable to that required by subsection (d) of this section."

As required in the 2012 National Forest Land Management Planning Rule implementing the NFMA:

- *"Projects and activities authorized after approval of a plan, plan amendment, or plan revision must be consistent with the plan as provided in paragraph (d) of this section" (36 CFR 219.15(b)).*
- *"When a proposed project or activity would not be consistent with the applicable plan components, the responsible official shall take one of the following steps, subject to valid existing rights:*

  (1) Modify the proposed project or activity to make it consistent with the applicable plan components;
  (2) Reject the proposal or terminate the project or activity;
  (3) Amend the plan so that the project or activity will be consistent with the plan as amended; or
  (4) Amend the plan contemporaneously with the approval of the project or activity so that the project or activity will be consistent with the plan as amended. This amendment may be limited to apply only to the project or activity." (36 CFR 219.15(c))

As identified above, the Forest Plan will be amended for that portion of Highway 21 that is located within project area only. For the portion of Highway 21 between Banner Ridge and Whoop-Um-Up trailhead, the change in VQOs under Standard 0763 will remain in effect from the remainder of the planning period; revision of the Forest Plan is anticipated to be initiated in 2018–2020.

As required at 36 CFR 219.16, public notification of this non-significant amendment was made consistent with the requirements at 36 CFR 218.

As allowed at 36 CFR 219.17(a)(3), the effective date of this project specific amendment will be on the date the project may be implemented in accordance with administrative review regulations at 36 CFR 218.

Finally, as allowed at 36 CFR 219.17(b)(2), *"…with respect to plans approved or revised under a prior planning regulation, including the transition provisions of the reinstated 2000 rule (36 CFR part 209, published at 36 CFR parts 200 to 209, revised as of July 1, 2010), plan amendments may be initiated under the provisions of the prior planning regulation for 3 years after May 9, 2012, and may be completed and approved under those provisions…"*

As allowed at 36 CFR 219.17(b)(2), because the Forest Plan amendment was initiated through scoping prior to May 2015, the amendment has been completed consistent with transition provisions of the reinstated 2000 rule. Thus, determination as to whether the amendment is significant or non-significant is based on Forest Service Handbook policy in place prior to 2000 (Forest Service Handbook 1909.12, Section 5.32, effective date 8/3/1992). This handbook lists four factors to be used when determining whether a proposed change to a forest plan is significant or non-significant: (a) timing; (b) location and size; (c) goals, objectives, and outputs, and; (d) management prescriptions.

Timing

The timing factor examines at what point over the course of the forest plan period that the plan is amended. Both the age of the underlying document and the duration of the amendment are relevant considerations. The handbook indicates that the later in the time period, the less significant the change is likely to be. The decision to revise the Forest Plan was issued in July 2003 and implementation began in September 2003.

The project-specific amendment will take effect in approximately 2016. The anticipated revision of the Forest Plan is expected to begin between 2018 and 2020. Thus, the amendment would be in effect 2-4 years before being reconsidered/validated under plan revision work.

Location and Size

The key to the location and size criteria is context or *"the relationship of the affected area to the overall planning area", "the smaller the area affected, the less likely the change is to be a significant change in the forest plan."*

This proposed non-significant Forest Plan amendment will include the following VQO changes:

- Retention to Partial Retention: 4,587 acres
- Maximum Modification to Modification: 805 acres
- Maximum Modification to Partial Retention: 321 acres

This proposed update constitutes approximately 0.11% of the entire acreage (171,400 acres) of MA 07 (the North Fork Boise River unit). Relative to the Forest as a whole, the change even substantially less.

Goals, Objectives, and Outputs

The goals, objectives, and outputs factor involves the determination of "*whether the change alters the long-term relationship between the level of goods and services in the overall planning area*" (Forest Service Handbook 1909.12, Section 5.32(c)). Application of this criterion requires an analysis of the overall forest plan and the various multiple-use resources, services and outputs that may be affected by the proposed amendment.

As described above, the existing mapped/adopted VQOs of ***Retention*** *and* ***Partial Retention*** along Highway 21 are incompatible with the existing recreational and road developments within the Project Area. Based on a review by the Project IDT, the proposed Forest Plan amendment to VQOs along Highway 21 from Banner Ridge to Whoopum Up Trailhead is not anticipated to negatively impact the long-term management or development of these sites with respect to Forest Plan guidance in anyway.

Management Prescription

The management prescription factor involves the determination of (1), "whether the change in a management prescription is only for a specific situation or whether it would apply to the future decisions throughout the planning area" and (2), "whether or not the change alters the desired future condition of the land and resources or the anticipated goods and services to be produced" (Forest Service Handbook 1909.12, Section 5.32(d)).

The Becker Integrated Resource Project area falls within Management Prescription Category (MPC) 5.1[5]. The proposed Forest Plan amendment would not change this MPC, nor would it affect anticipated outputs from this MPC.

MPC 5.1 prescription applies to lands that are predominantly (>50%) forested. Emphasis is on restoring or maintaining vegetation within desired conditions in order to provide a diversity of habitats, reduce risk from disturbance events, and provide sustainable resources for human use. Commodity production is an outcome of restoring or maintaining the resilience/resistance of forested vegetation to disturbance events; achievement of timber growth and yield is not the primary purpose. The full range of treatment activities may be used. Restoration occurs through management activities and succession. Combinations of mechanical and fire treatments are used to restore forested areas while maintaining or improving resources such as soils, water quality, fish and wildlife habitat, and recreation settings. The risk of temporary and short-term degradation to the environment is minimized, but impacts may occur within acceptable limits (i.e., consistent with Forest Plan standards and guidelines) as resources are managed to achieve long-term goals and objectives.

As disclosed in the environmental impact statement (EIS) for the Becker Integrated Resource Project, the proposed amendments did not alter the ability of action alternative to accomplish Purposes #1 and #2, consistent with the emphasis for MPC 5.1 prescriptions.

[5] MPC 5.1 includes the majority of active restoration areas that fall within the lands identified as suited timberlands on the Boise National Forest; MPC 5.1 encompasses about 904,000 total acres. The acres of MPC 5.1 within the project area represent about 1.7% of the total MPC 5.1 acres on the Forest.

FINDING OF NON-SIGNIFICANCE

On the basis of the information and analysis contained in the EIS, associated Biological Assessment, concurrence from the US Fish and Wildlife Service regarding the determination for listed species, associated planning record, and evaluation of the amendment under the four factors outlined above, the Responsible Official has determined that adoption of the proposed plan amendment to standard 0763 for the remainder of this planning period, as well as inclusion of the corrections to objectives identified above, does not constitute a significant amendment of the Forest Plan as amended in 2010.

Appendix J:
Maps

Becker Integrated Resource Project

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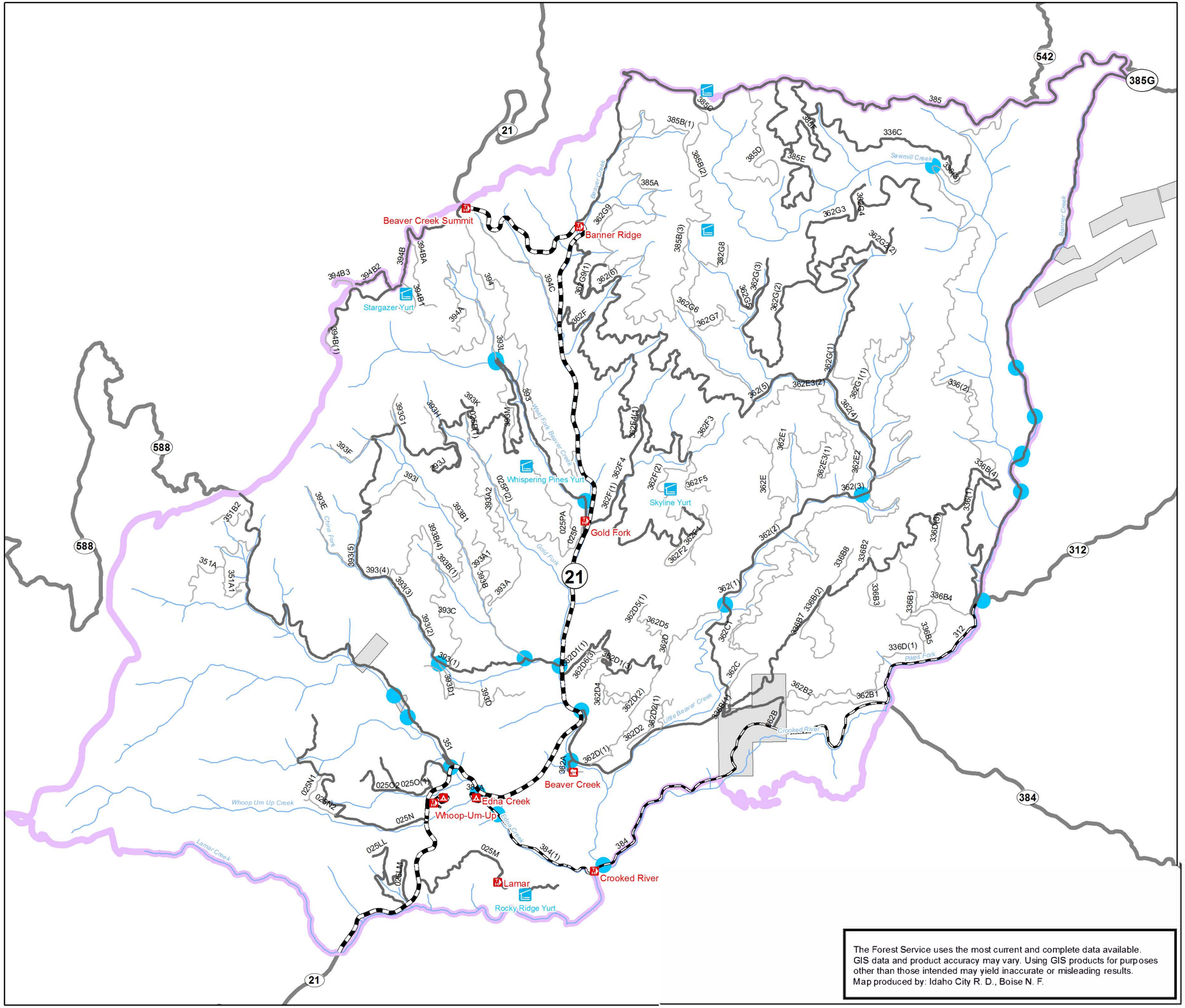
Becker Integrated Resource Project - Map 1

Transportation - Alternative A

Legend

- **Project Boundary**
- **Existing Roads - Alternative A**
- Operational Maintenance Level
  - 1 - BASIC CUSTODIAL CARE (CLOSED)
  - 2 - HIGH CLEARANCE VEHICLES
  - 3 - SUITABLE FOR PASSENGER CARS
  - 5 - HIGH DEGREE OF USER COMFORT
- **Culverts**
- **Yurts**
- **Recreation Sites**
  - Campground
  - Lookout/Cabin
  - Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Map produced by: Idaho City R. D., Boise N. F.

Becker Integrated Resource Project - Map 2

Transportation - MVUM Alternative A

Legend

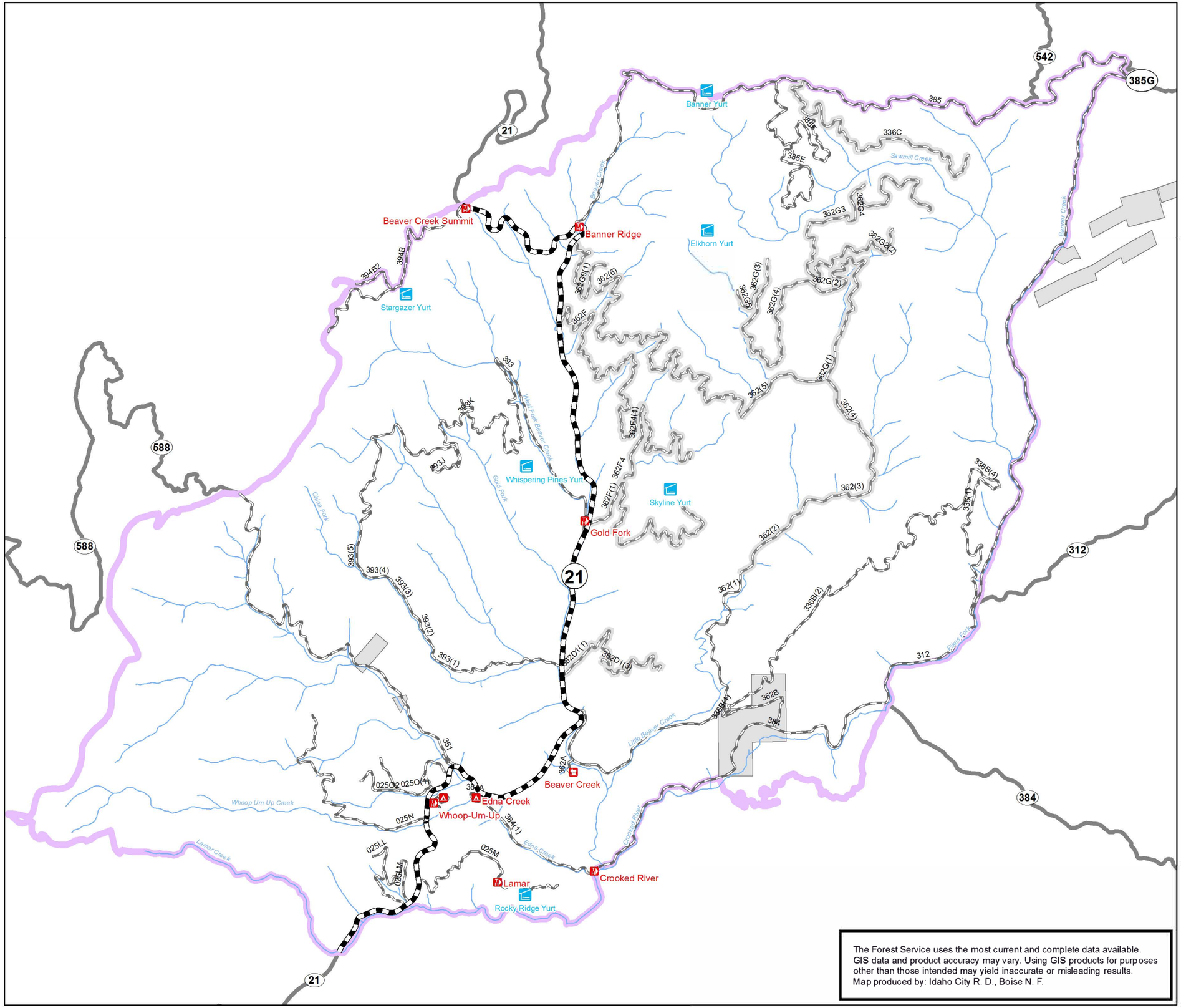
- **Project Boundary**

Motor Vechicle Use Map - Current

- Roads Open to All Vehicles,
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project-Map 3

Recreation - Summer

Alternative A

Existing Condition

Legend

- **Project Boundary**

Authorization of Non-motorized Routes

- Non-motorized Trail on Closed NFS Roads
- Non-motorized Trail on unauthorized route

Motor Vechicle Use Map - Current

- Roads Open to All Vehicles,
- Roads Open to All Vehicles, Seasonal 06/16-
- Highway 21
- **Yurts**
- **Existing Beaver Creek Summit Trailhead**

Existing Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**

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Becker Integrated Resource Project-Map 4

Recreation - Winter

Alternative A

Existing Condition

Legend

- **Project Boundary**

Winter Non-Motorized Trails Managed Under Agreement with IDPR

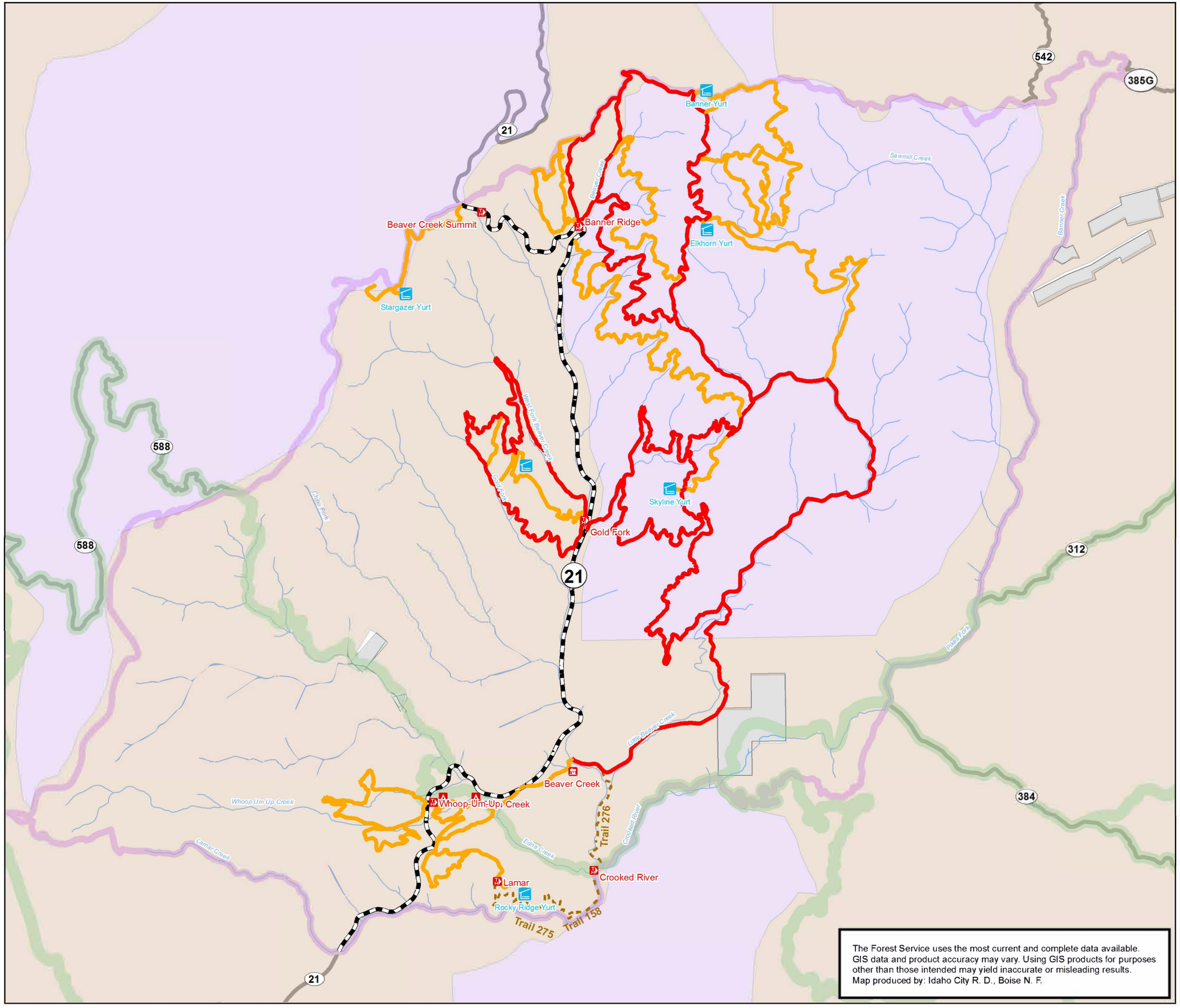
- Groomed
- Un-groomed

Travel Management - Winter

- Motorized
- Non-motorized
- **2013 Groomed Snowmobile Trail**
- Highway 21
- **Yurts**
- **Existing Beaver Creek Summit Trailhead**

Existing Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project-Map 5

Vegetation Treatment/Harvest System - Alternative B & C

Legend

Project Boundary

Alternative B & C - Vegetation Treatments

- Thinning with No Product Removal
- Thinning (Optional Mastication) No Product Removal
- Thinning with Optional Miscellaneous Wood Product Removal
- Thinning with Product Removal
- Mixed Treatment with Product Removal

Alternative B & C - Harvest System

- Light Cable
- Tractor/Jammer
- Tractor

Landings - Alternatives B & C

- Tractor

Alternative B & C - Road Construction Associated with Vegetation Treatment

- Add to System (ML2)
- NFS Road 393 Realignment (ML2)
- Reconst_ML1 to 2
- Temporary Road Construction

Existing Plantations

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

Yurts

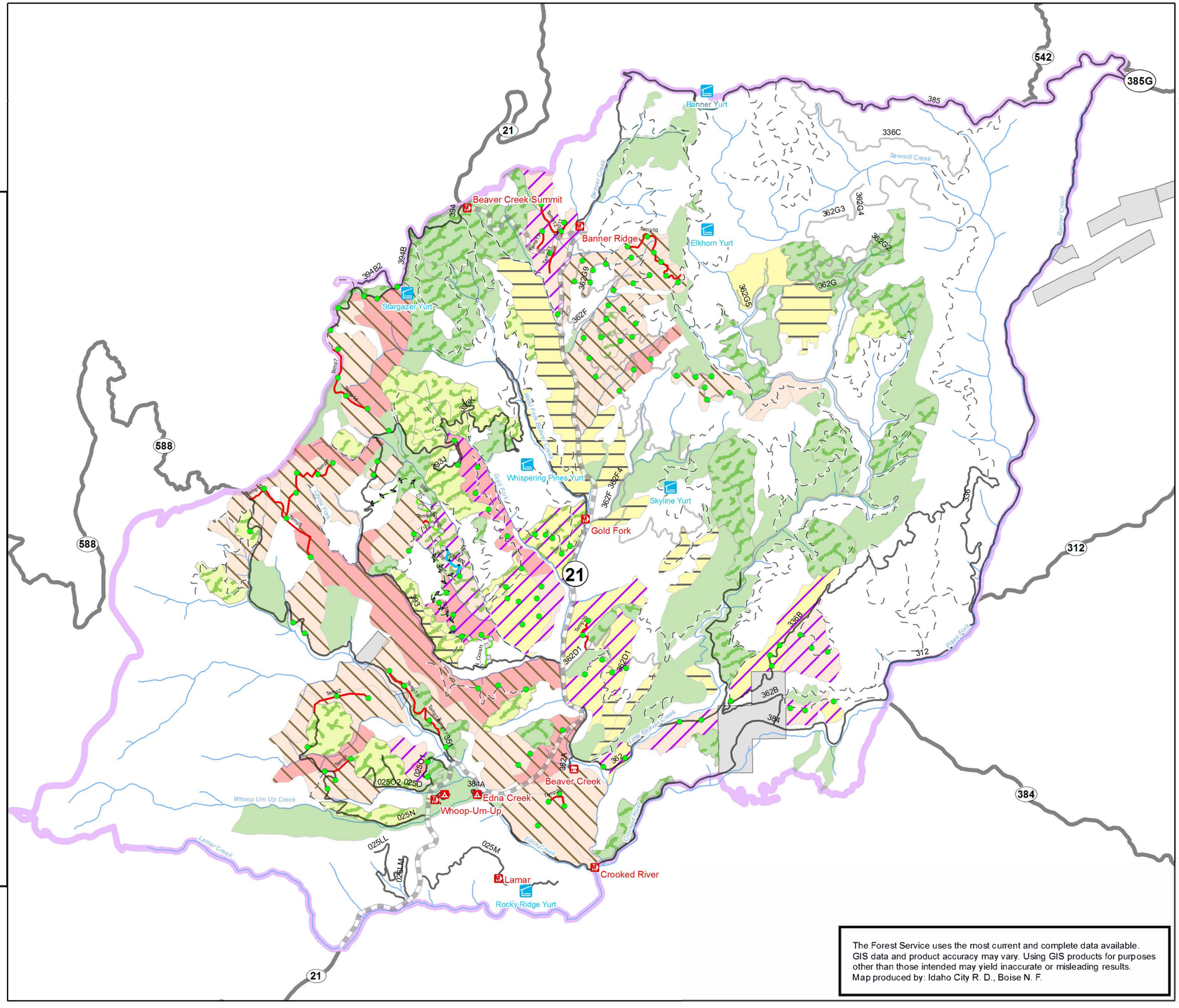
Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

Streams - Perennial

Roads - Outside Project Area

Private



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Becker Integrated Resource Project - Map 6

Fuels - Alternatives B & C

Legend

- **Project Boundary**
- **Natural Fuels - Direct Application of Fire**
- **Natural Fuels - Indirect Application of Fire**
- **Application of Broadcast Burn Treatment**

Alternative B & C - Activity FuelsTreatment

- Lop & scatter
- Handpile and Lop & scatter
- Handpile concentrations
- Handpile concentrations and Lop & scatter
- Chip or Lop & scatter
- Yard Handpile concentrations
- Yard Handpile concentrations and Lop & scatter
- Whole Tree Yard and Lop & scatter
- Whole Tree Yard and Handpile concentrations

Road (.Existing)

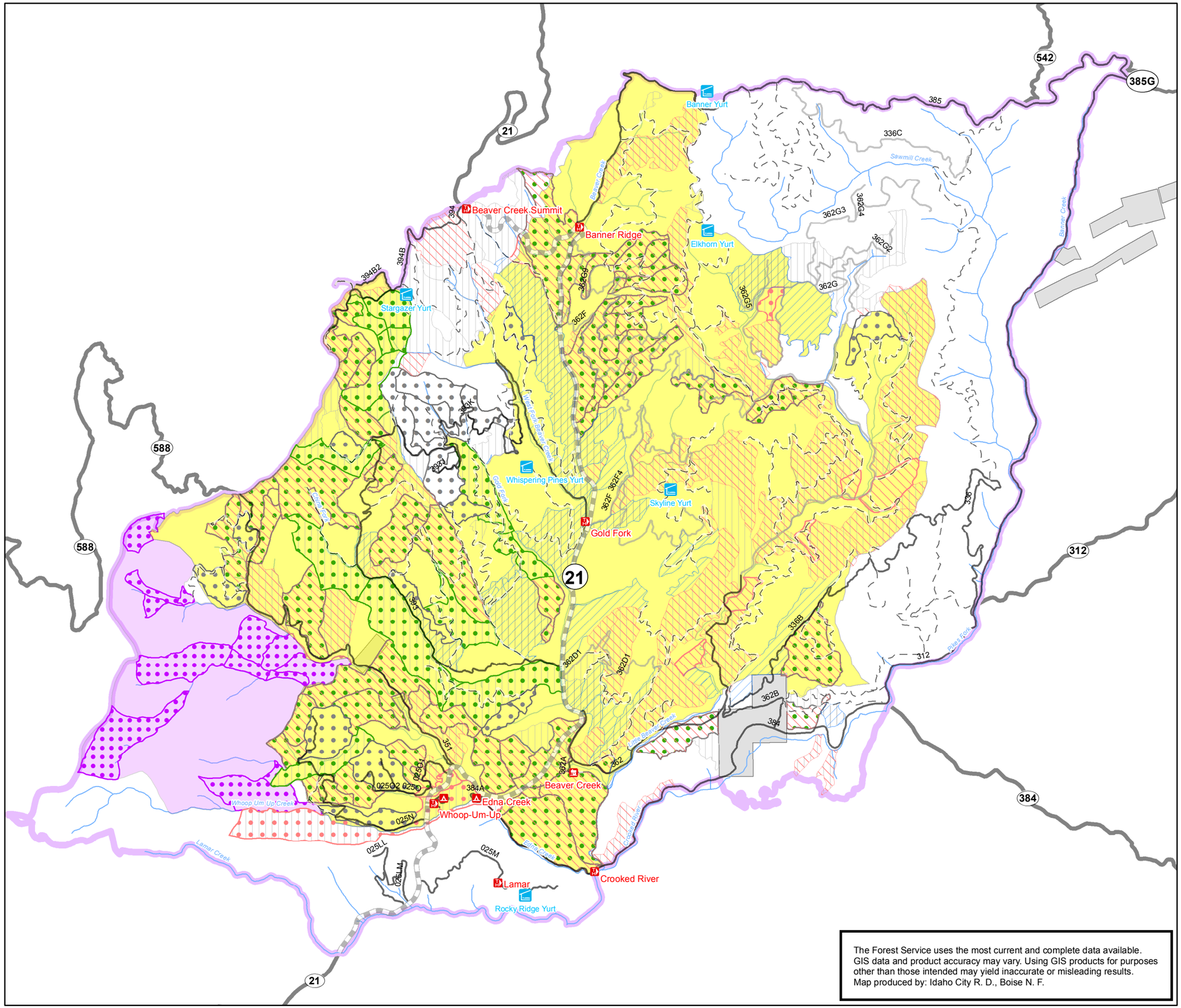
- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 7

Transportation - Alternative B

Legend

Project Boundary

Alternative B - Transportation Treatments

- Decommission
- Closed to All Motorized Access (ML2 to ML1)
- Closed to Public Motorized Access (ML2 Admin)
- Add to System - Closed to All Motorized Access (ML1)
- Add to System - (ML2)
- Add to System - Closed to Public Motorized Access (ML2 Admin)
- New Construction (ML2)
- New Construction - Closed to Public Motorized Access (ML2 Admin)
- Reconstruction (ML1 to ML2)
- Convert ML1 to Motorized Trail for Vehicles 50" or less
- Temporary Road Construction
- Motorized Trail Construction for Vehicles 50" or less; ATV_NewConstruction-Visible Prism
- Convert to Non-motorized Trail
- No Change - ML 1 - Closed to All Motorized
- No Change - ML 2 - High Clearance Vehicles
- No Change - ML 3 - Suitable for Passenger Cars
- Highway 21
- **Unauthorized Routes - Decommission**
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**

N

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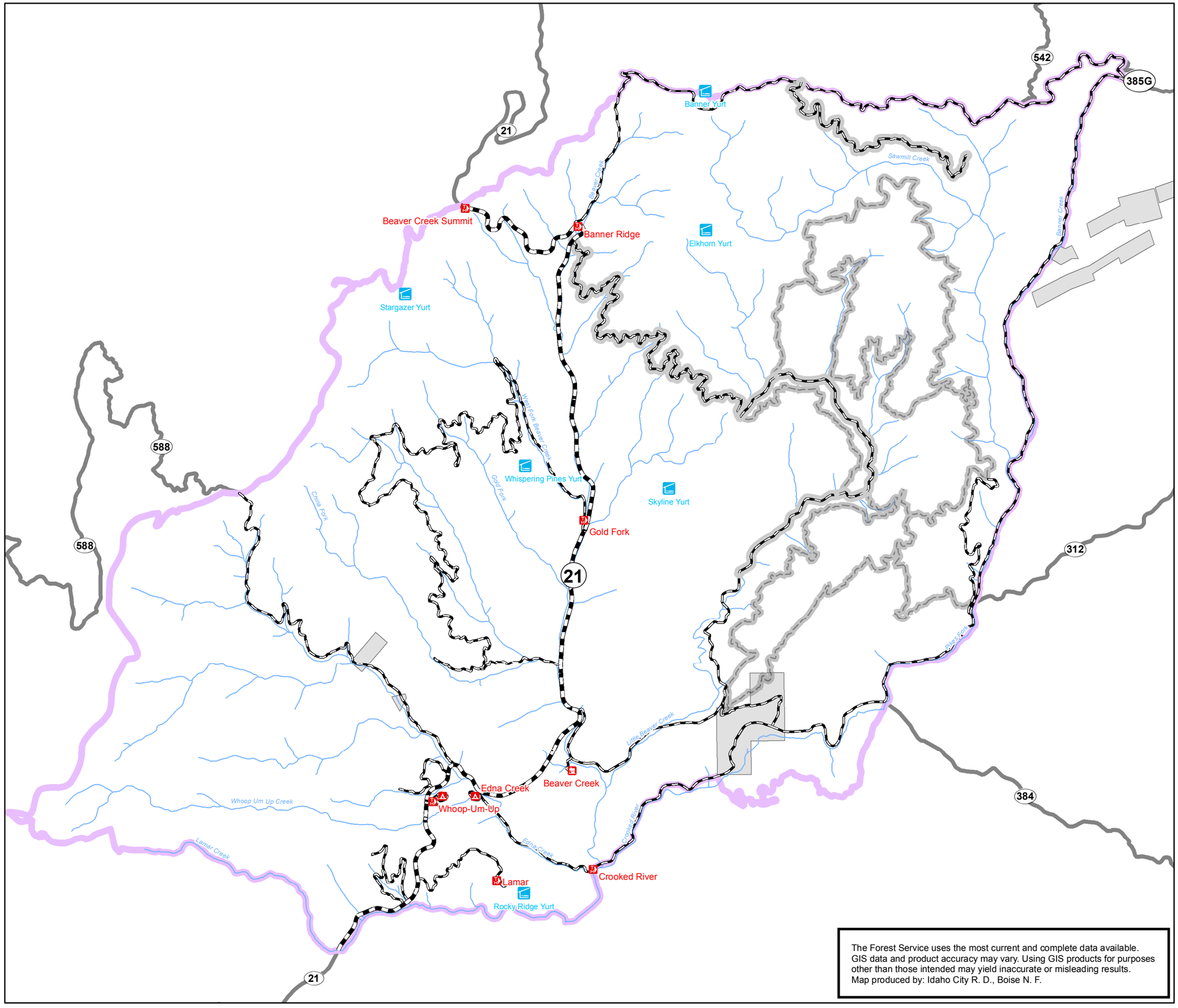
Becker Integrated Resource Project - Map 8

Transportation - MVUM Alternative B

Legend

- **Project Boundary**
- **Alternative B - Motorized Trail**
  - Trails Open to Vehicles 50" or Less in Width, Seasonal
- **Alternative B - MVUM**
  - Roads Open to All Vehicles, Yearlong
  - Roads Open to All Vehicles, Seasonal 06/16-09/14
  - Highway 21
  - **Yurts**
- **Recreation Sites**
  - Campground
  - Lookout/Cabin
  - Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 9

Culverts - All Alternatives

Legend

- **Project Boundary**

Culvert Treatments

- Priority Critical Bull Trout Culvert
- Culvert Treatment
- Culvert - Outlet Pool Modification
- **Bull Trout Critical Habitat Stream**

Bull Trout Patches

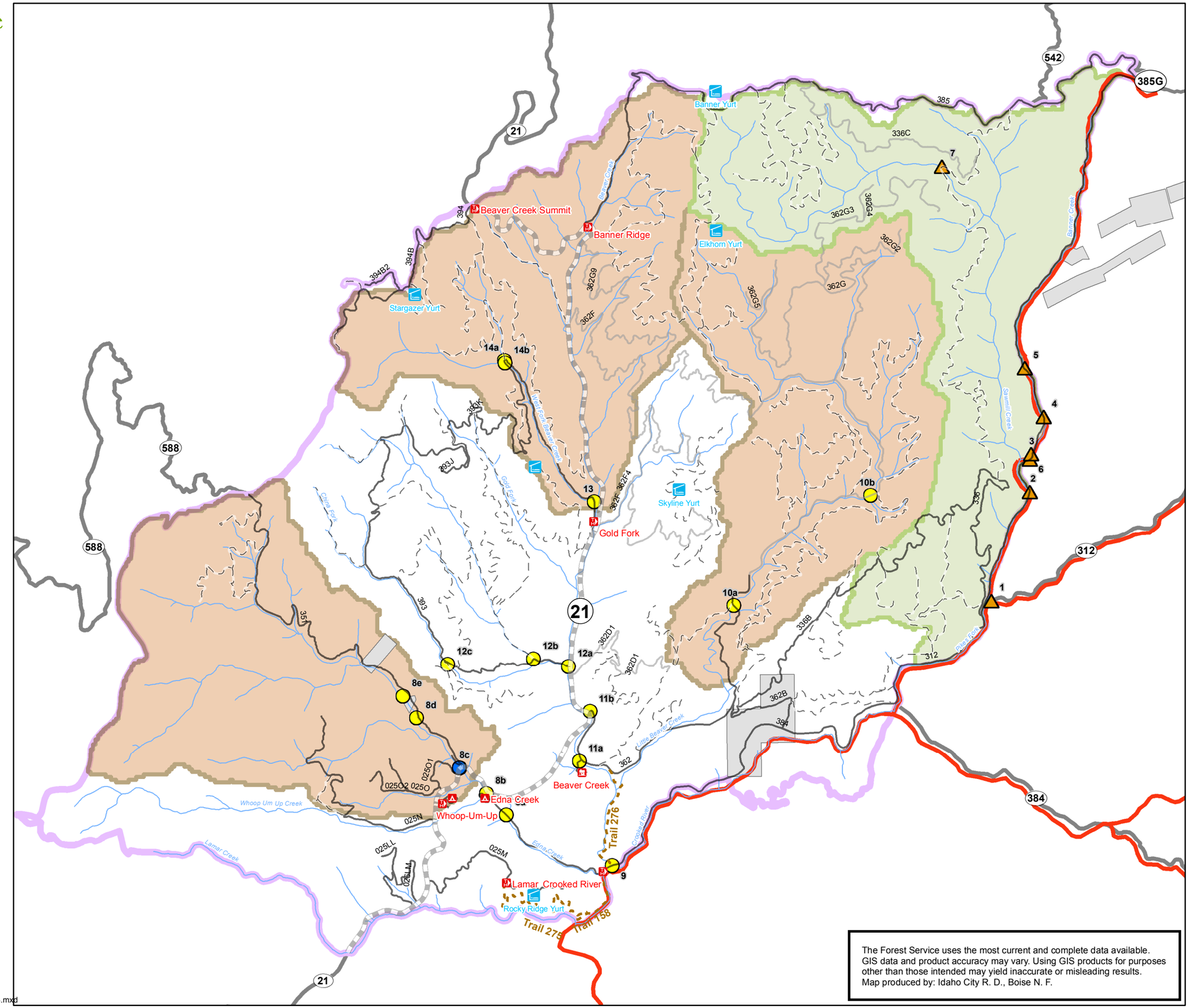
- 2 - Suitable Habitat, Potentially
- 3 - Unsuitable Habitat, Likely

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Non-motorized Trail**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 10

Recreation - Summer

Alternative B

Legend

- **Project Boundary**
- **Motor Vehicle Trailhead - Alt. B, C, D & F**

Authorization of Non-motorized Routes

- Non-motorized Trail on Closed NFS Roads — Label 999
- Non-motorized Trail on unauthorized route

Alternative B - Designation of Motorized Trails

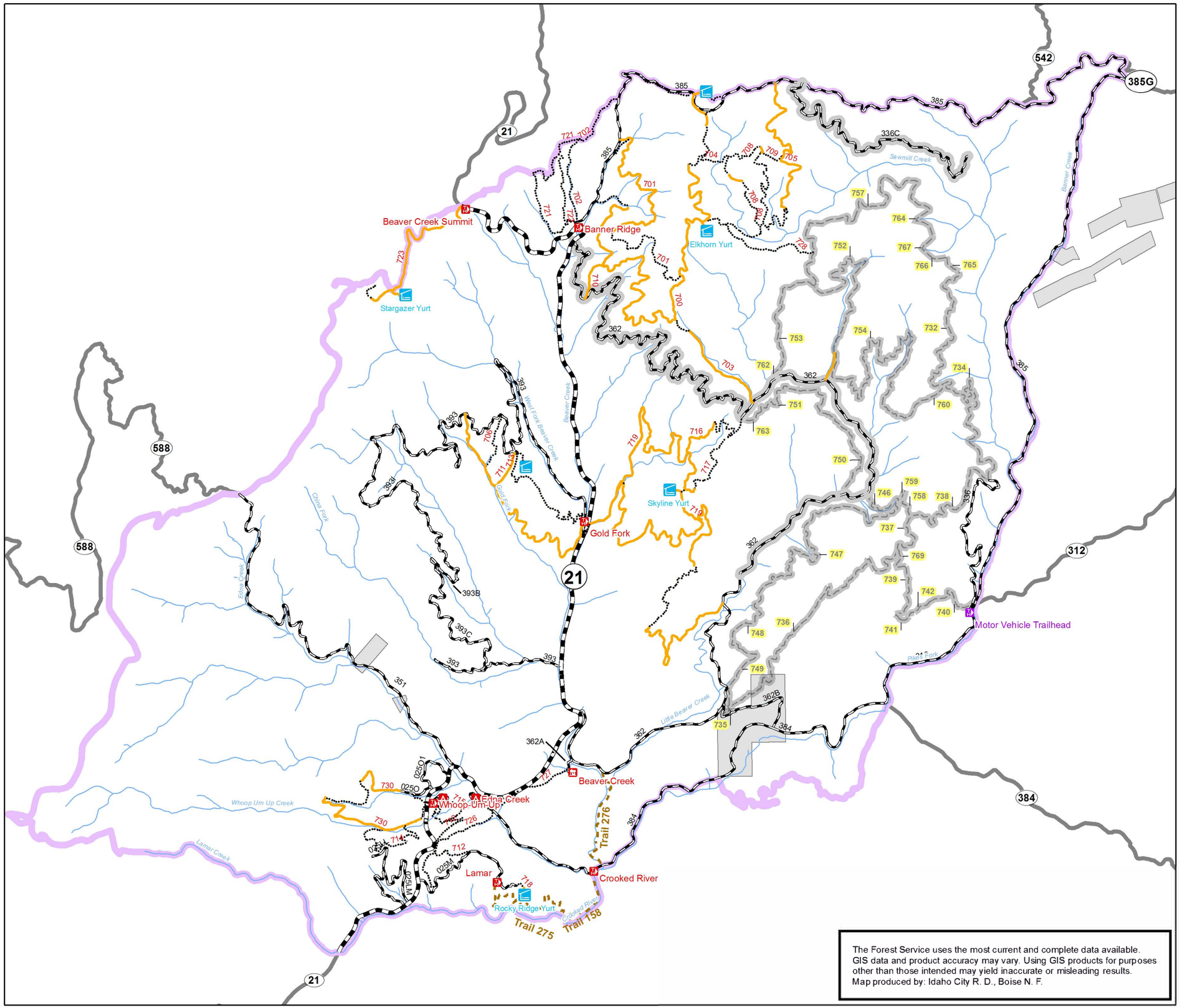
- Trails Open to Veh. 50" or Less in Width, Seasonal — Label 999

Alternative B - MVUM

- Roads Open to All Vehicles, Yearlong
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 11

Recreation - Winter

Alternative B

Legend

- **Project Boundary**
- **Winter Non-Motorized Trails**
  - Groomed
  - Un-groomed
- **Travel Management - Winter**
  - Motorized
  - Non-motorized
- **2013 Groomed Snowmobile Trail**
- Highway 21
- **Yurts**
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**

N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 12

Transportation - Alternative C

Legend

Project Boundary

Alternative C - Transportation Treatments

- Decommission
- Closed to All Motorized Access (ML2 to ML1)
- Closed to Public Motorized Access (ML2 Admin)
- Add to System - Closed to All Motorized Access (ML1)
- Add to System - (ML2)
- Add to System - Closed to Public Motorized Access (ML2 Admin)
- New Construction (ML2)
- New Construction - Closed to Public Motorized Access (ML2 Admin)
- Reconstruction (ML1 to ML2)
- Convert ML1 to Motorized Trail for Vehicles 50" or less
- Temporary Road Construction
- Motorized Trail Construction for Vehicles 50" or less; ATV_NewConstruction-Visible Prism
- Convert to Non-motorized Trail
- No Change - ML 1 - Closed to All Motorized
- No Change - ML 2 - High Clearance Vehicles
- No Change - ML 3 - Suitable for Passenger Cars
- Highway 21
- **Unauthorized Routes - Decommission**
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**

N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 13

Transportation - MVUM Alternative C

Legend

- **Project Boundary**

Alternative C - Motorized Trail

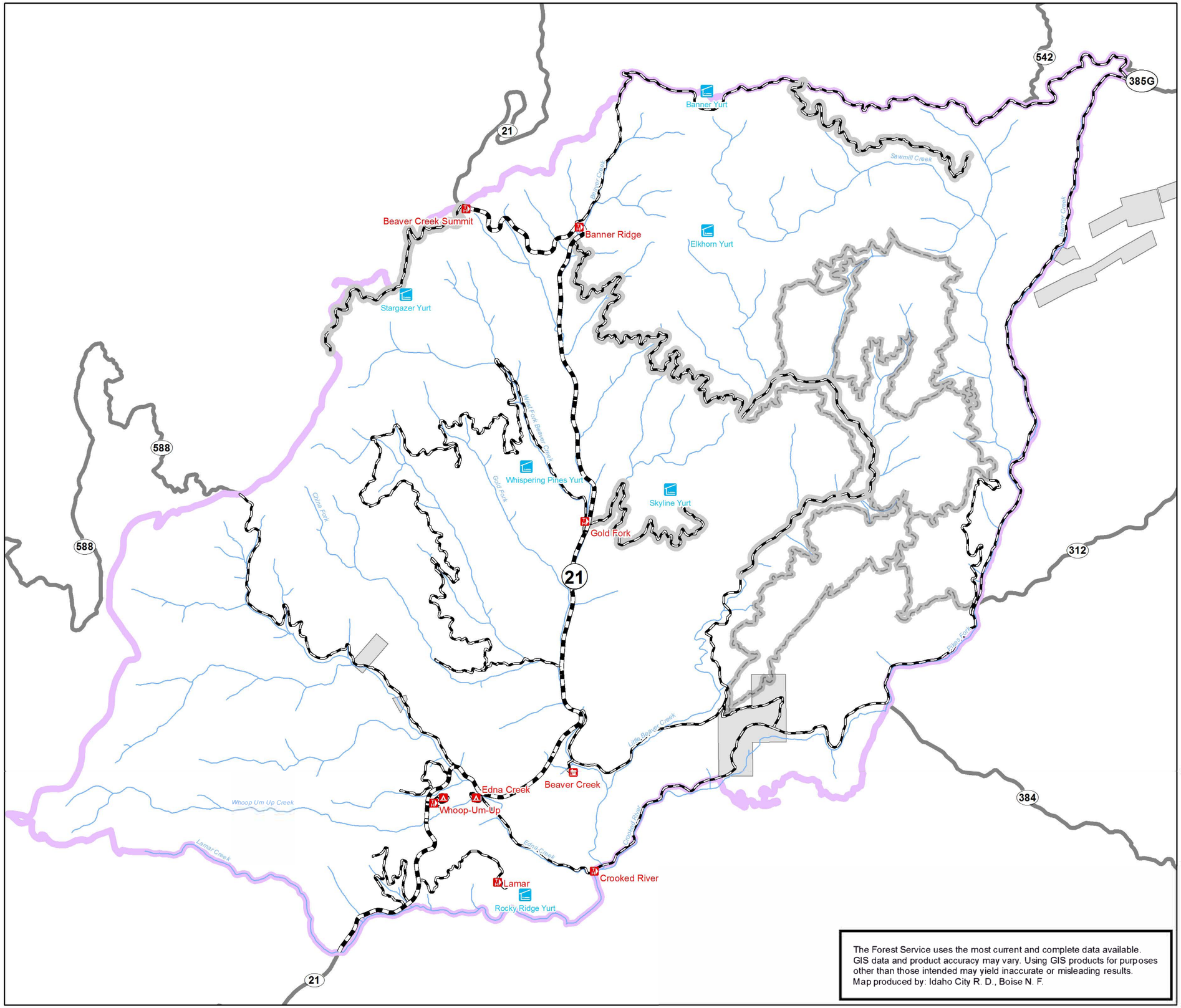
- Trails Open to Vehicles 50" or Less in Width, Seasonal

Alternative C - MVUM

- Roads Open to All Vehicles, Yearlong
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 14

Recreation - Summer

Alternative C

Legend

- **Project Boundary**
- **Motor Vehicle Trailhead - Alt. B, C, D & F**

Authorization of Non-motorized Routes

- Non-motorized Trail on Closed NFS Roads — Label 999
- Non-motorized Trail on unauthorized route

Alternative C - Designation of Motorized Trails

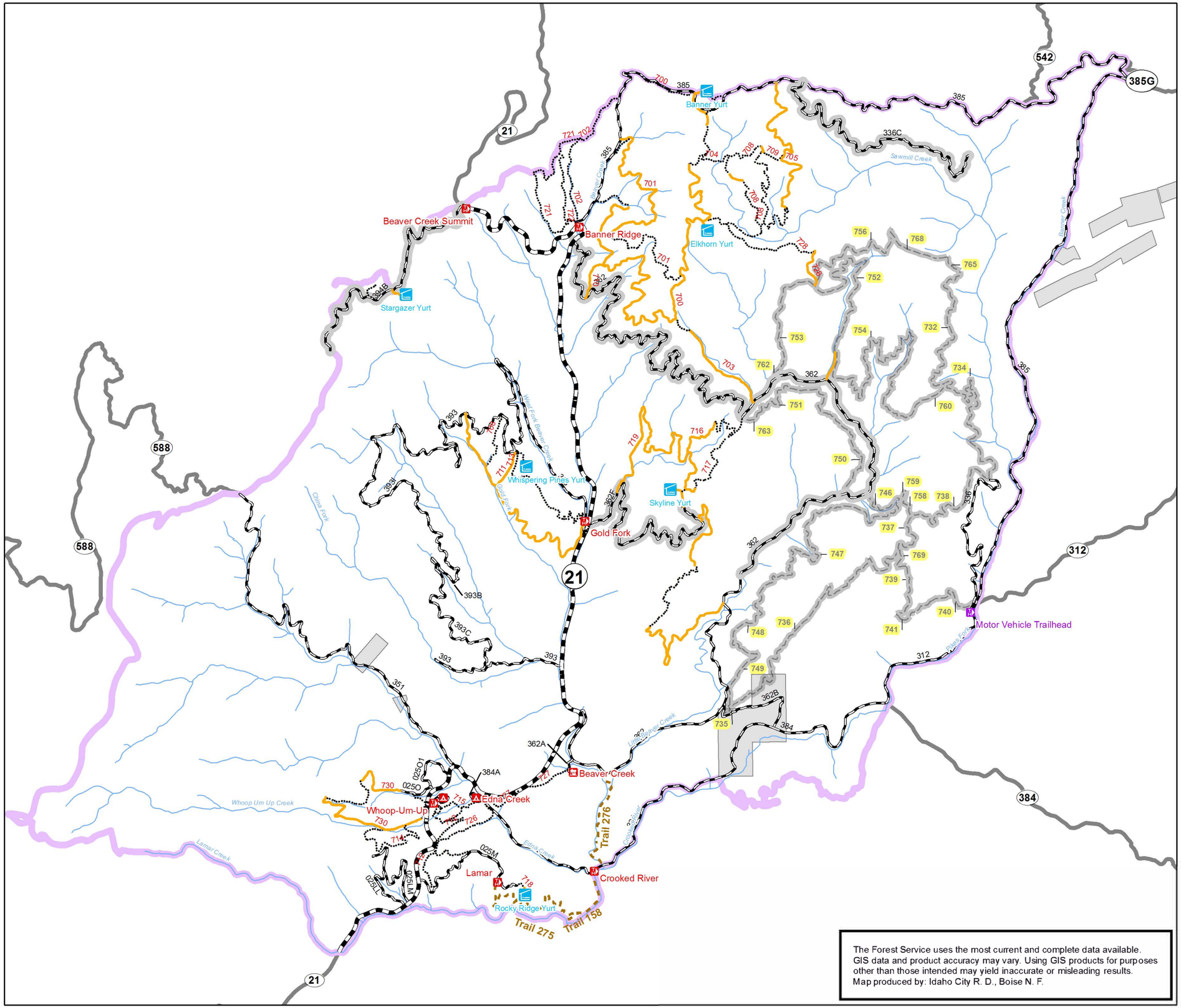
- Trails Open to Veh. 50" or Less in Width, Seasonal — Label 999

Alternative C - MVUM

- Roads Open to All Vehicles,
- Roads Open to All Vehicles, Seasonal 06/16-
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 15

Recreation - Winter

Alternative C

Legend

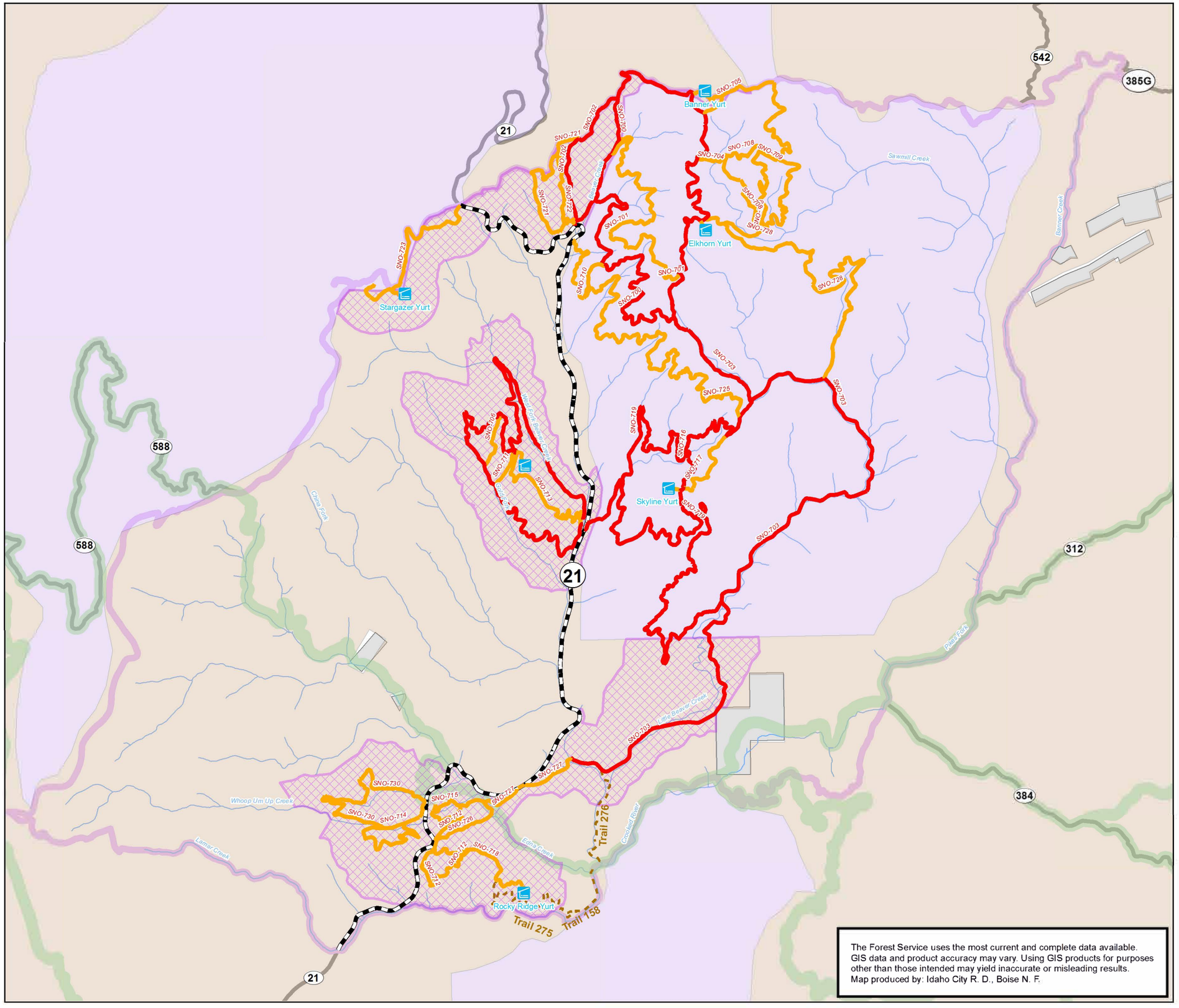
- **Project Boundary**

Winter Non-Motorized Trails

- Groomed
- Un-groomed
- **Motorized Winter Closure - Alternative C, E, F**

Travel Management - Winter

- Motorized
- Non-motorized
- **2013 Groomed Snowmobile Trail**
- Highway 21
- **Yurts**
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Becker Integrated Resource Project - Map 16

Vegetation Treatment/Harvest System - Alternative D

Legend

Project Boundary

Alternative D - Vegetation Treatments

- Thinning with No Product Removal
- Thinning (Optional Mastication) No Product Removal
- Thinning with Optional Miscellaneous Wood Product Removal
- Thinning with Product Removal
- Mixed Treatment with Product Removal

Alternative D - Harvest System

- Light Cable
- Tractor/Jammer
- Tractor

Landings - Alternative D

- Tractor

Alternative D - Road Construction Associated with Vegetation Treatment

- Add to System (ML2)
- NFS Road 393 Realignment (ML2)
- Reconst_ML1 to 2
- Temporary Road Construction

Existing Plantations

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

Yurts

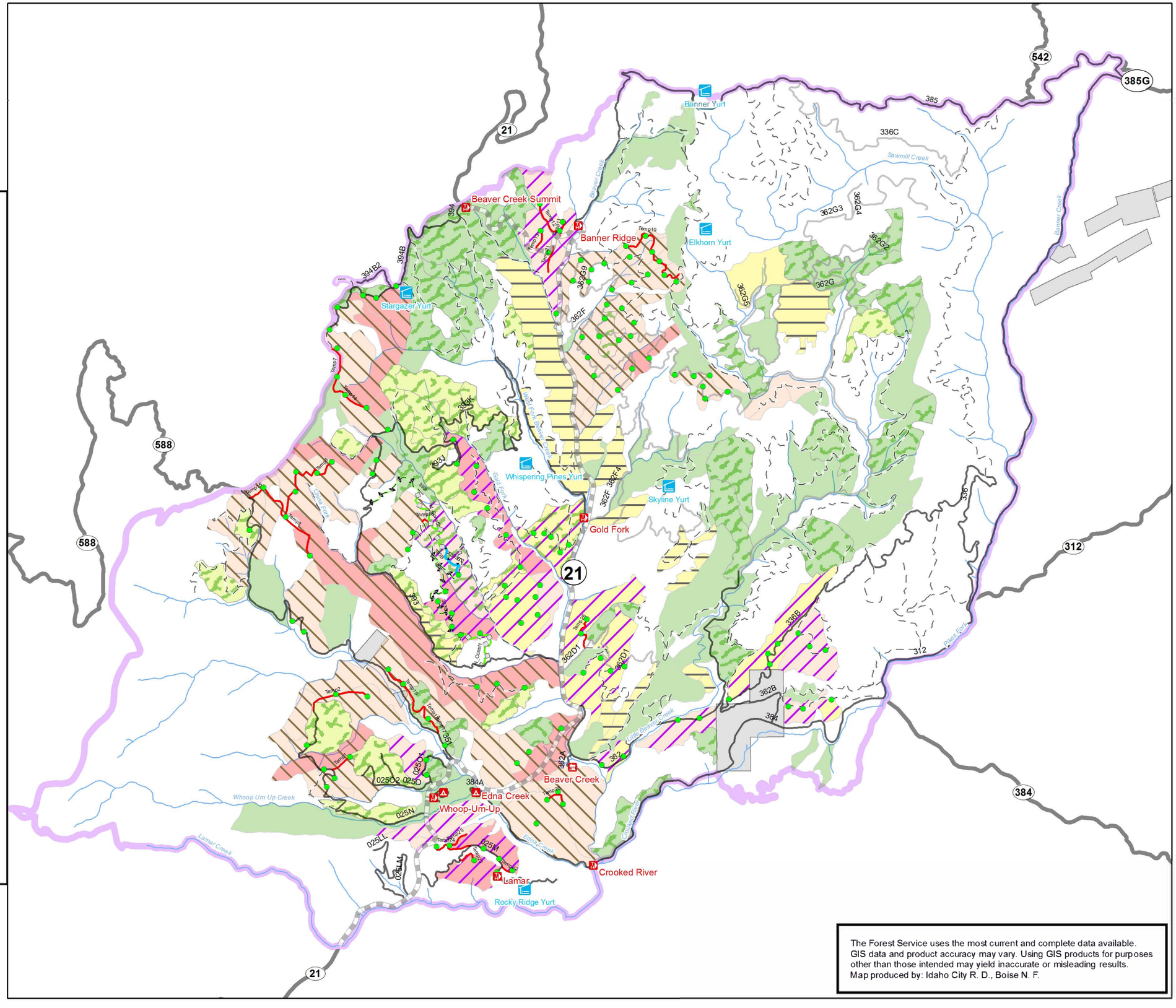
Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

Streams - Perennial

Roads - Outside Project Area

Private



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 17

Fuels - Alternative D

Legend

- **Project Boundary**
- **Natural Fuels - Direct Application of Fire**
- **Natural Fuels - Indirect Application of Fire**
- **Application of Broadcast Burn Treatment**

Activity Fuels Treatments

- Lop & scatter
- Handpile and Lop & scatter
- Handpile concentrations
- Handpile concentrations and Lop & scatter
- Chip or Lop & scatter
- Yard Handpile concentrations
- Yard Handpile concentrations and Lop & scatter
- Whole Tree Yard and Lop & scatter
- Whole Tree Yard and Handpile concentrations

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

Yurts

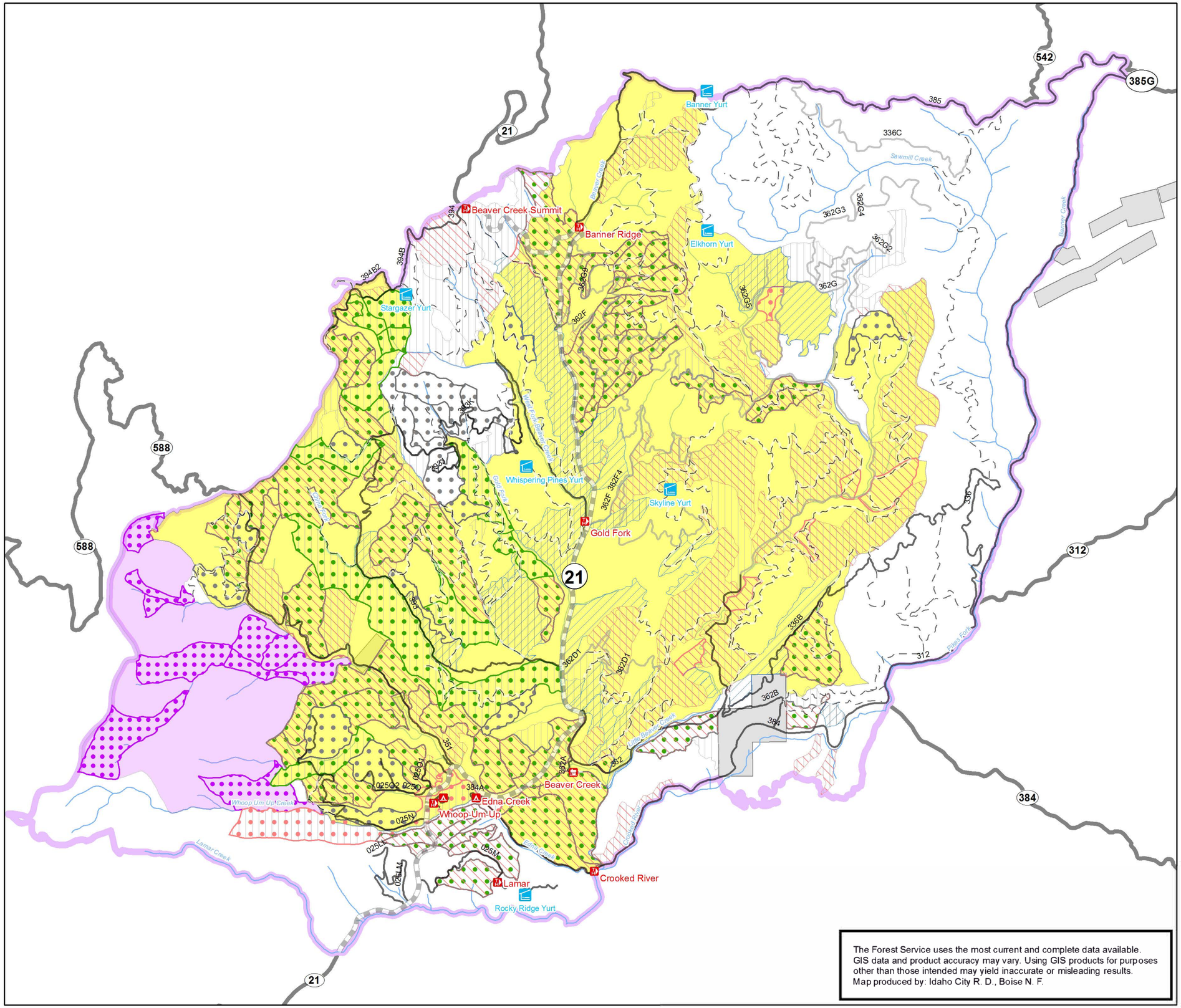
Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

Streams - Perennial

Roads - Outside Project Area

Private



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 18

Transportation - Alternative D

Legend

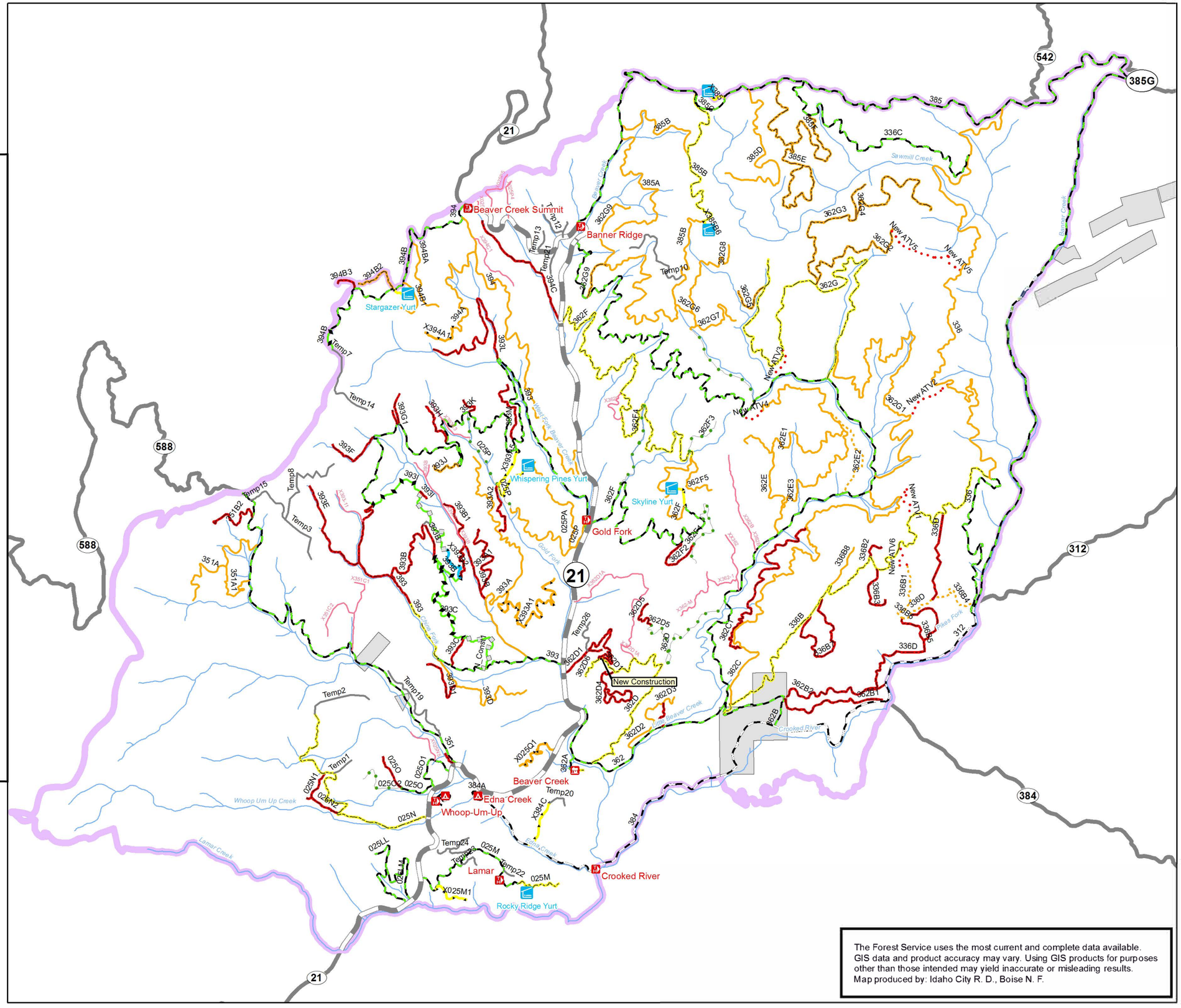
Project Boundary

Alternative D - Transportation Treatments

- Decommission
- Closed to All Motorized Access (ML2 to ML1)
- Closed to Public Motorized Access (ML2 Admin)
- Add to System - Closed to All Motorized Access (ML1)
- Add to System - (ML2)
- Add to System - Closed to Public Motorized Access (ML2 Admin)
- New Construction (ML2)
- New Construction - Closed to Public Motorized Access (ML2 Admin)
- Reconstruction (ML1 to ML2)
- Convert ML1 to Motorized Trail for Vehicles 50" or less
- Temporary Road Construction
- Motorized Trail Construction for Vehicles 50" or less; ATV_NewConstruction-Visible Prism
- Convert to Non-motorized Trail
- No Change - ML 1 - Closed to All Motorized
- No Change - ML 2 - High Clearance Vehicles
- No Change - ML 3 - Suitable for Passenger Cars
- Highway 21
- **Unauthorized Routes - Decommission**
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 19

Transportation - MVUM

Alternative D

Legend

- **Project Boundary**

Alternative D - Motorized Trail

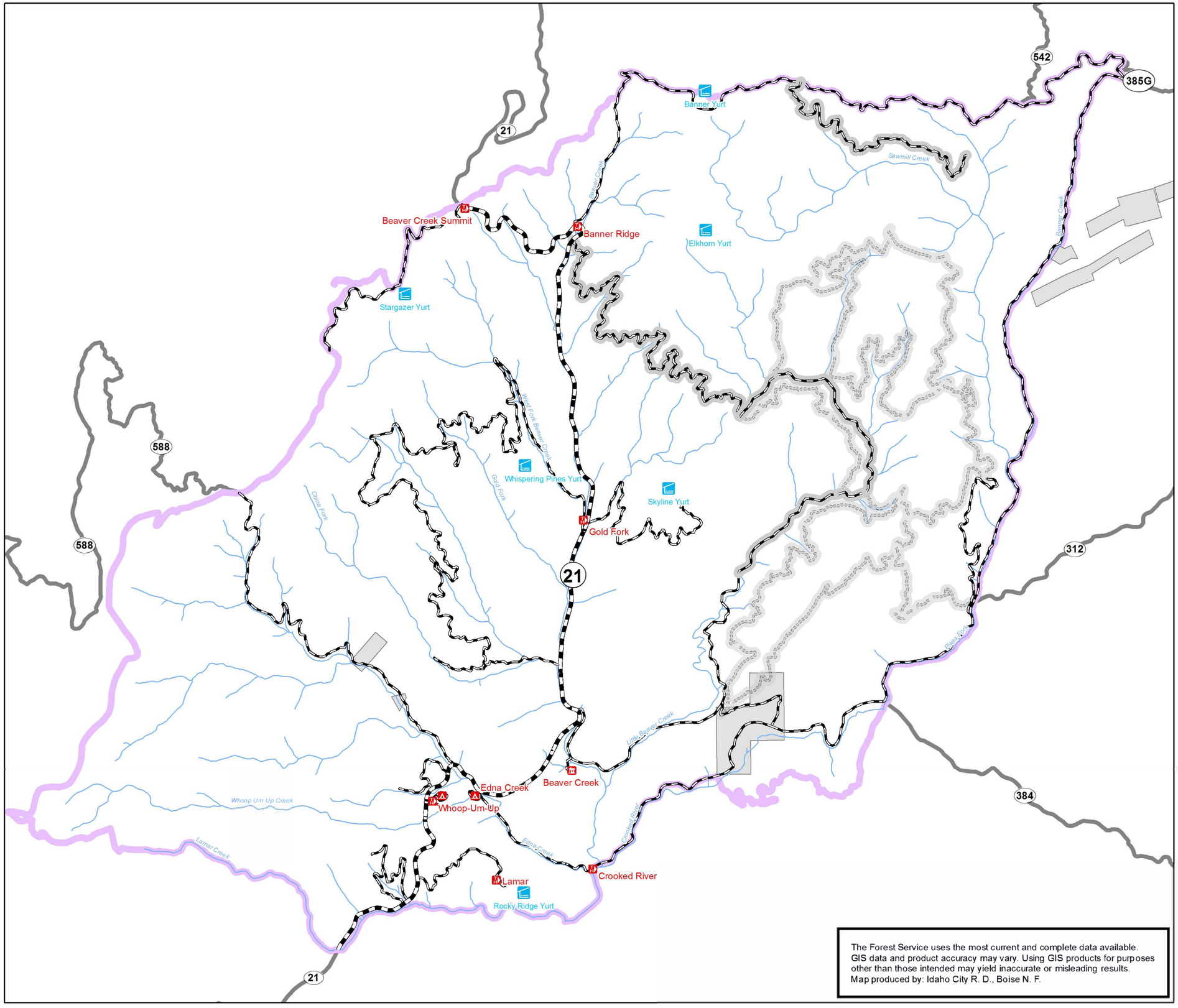
- Trails Open to Vehicles 60" or Less in Width, Seasonal

Alternative D - MVUM

- Roads Open to All Vehicles,
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/1/15

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Becker Integrated Resource Project - Map 20

Recreation - Summer

Alternative D

Legend

- **Project Boundary**
- **Motor Vehicle Trailhead - Alt. B, C, D & F**

Authorization of Non-motorized Routes — Label 999

- Non-motorized Trail on Closed NFS Roads
- Non-motorized Trail on unauthorized route

Alternative D - Designation of Motorized Trails — Label 999

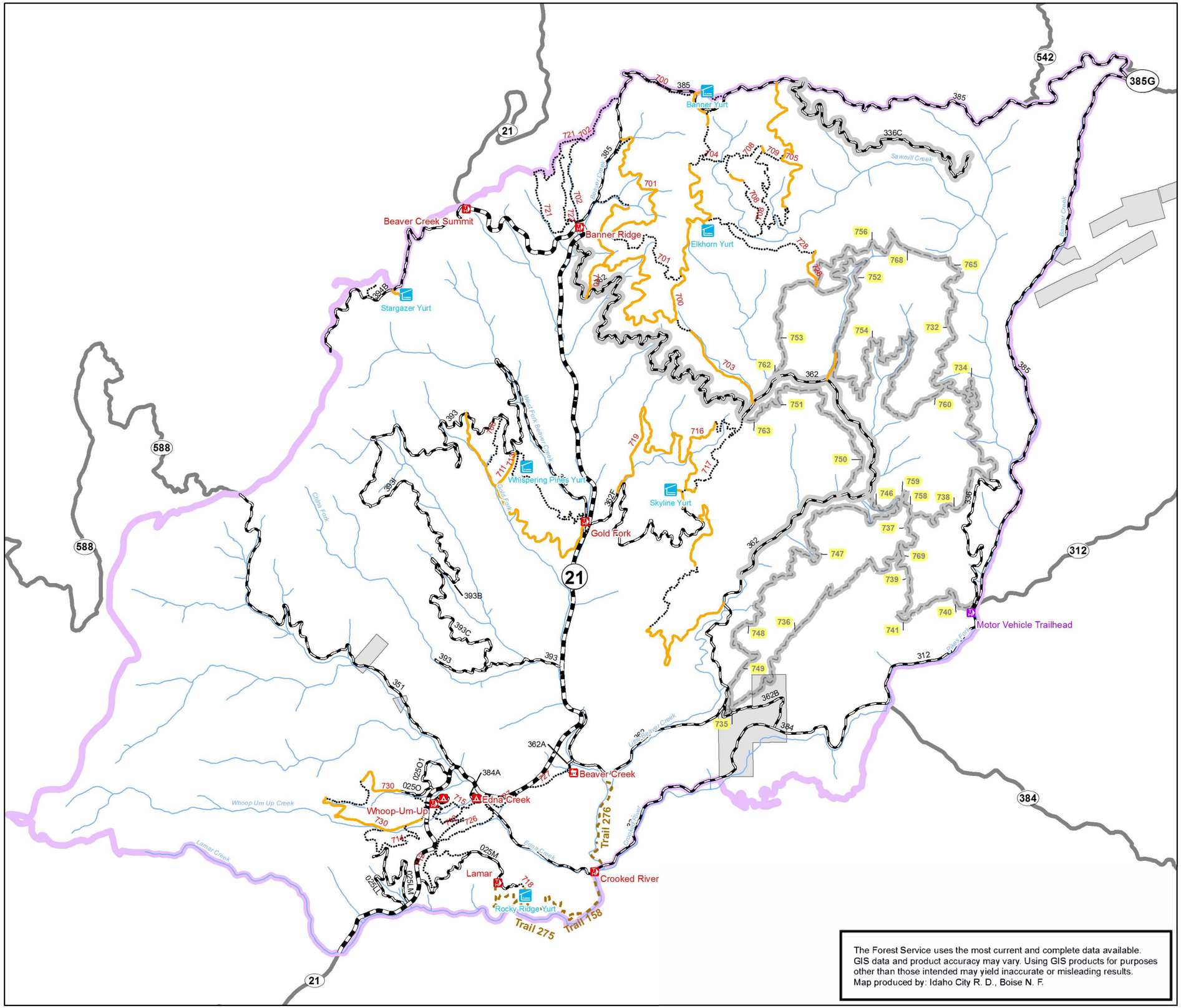
- Trails Open to Veh. 60" or Less in Width, Seasonal

Alternative D - MVUM

- Roads Open to All Vehicles, Yearlong
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those intended may yield inaccurate or misleading results. Map produced by: Idaho City R. D., Boise N. F.

N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 6/29/15
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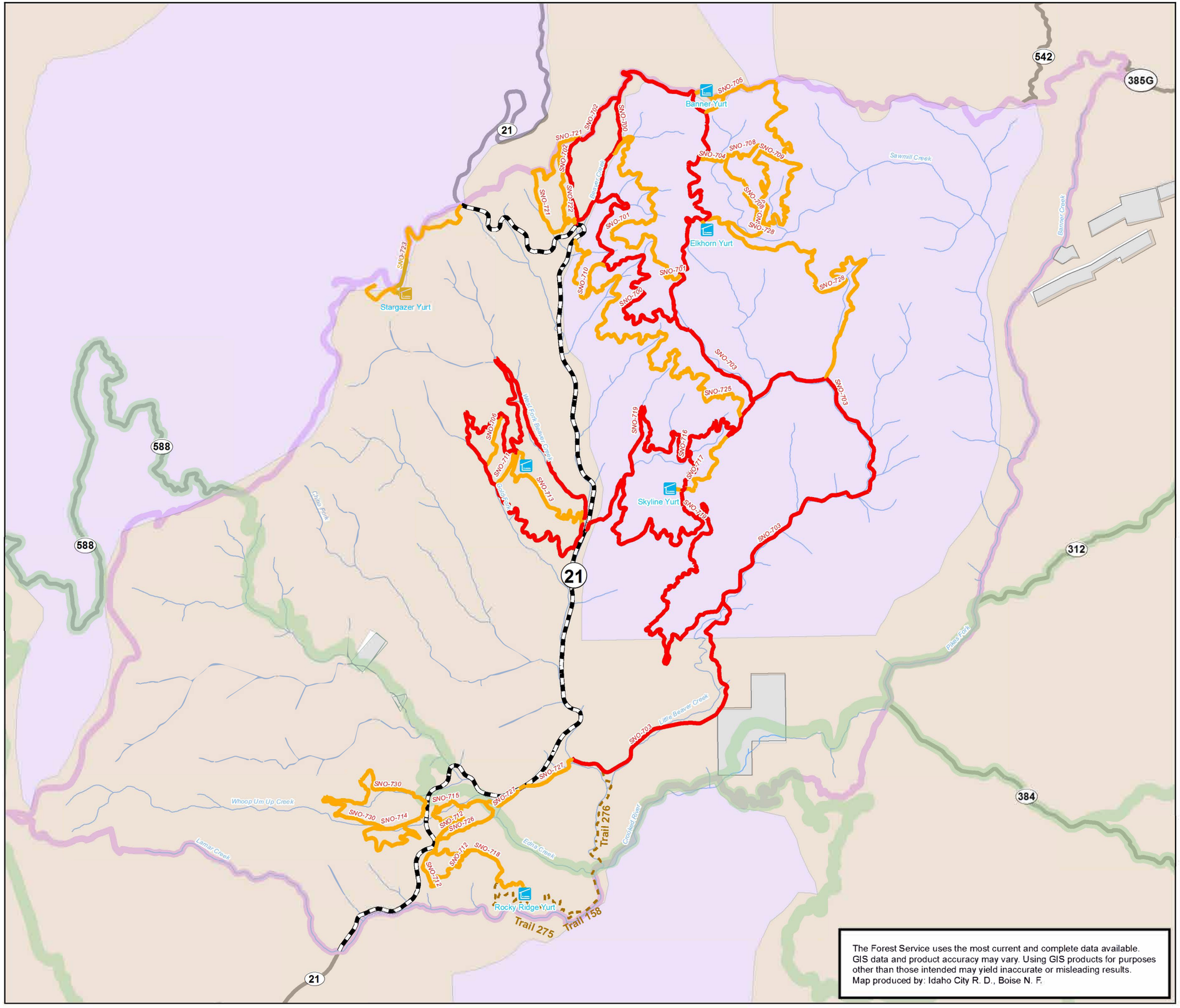
Becker Integrated Resource Project - Map 21

Recreation - Winter

Alternative D

Legend

- **Project Boundary**
- **Winter Non-Motorized Trails**
  - Groomed
  - Un-groomed
- **Travel Management - Winter**
  - Motorized
  - Non-motorized
- **2013 Groomed Snowmobile Trail**
- Highway 21
- **Yurts**
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 22

Vegetation Treatment/Harvest System - Alternative E

Legend

Project Boundary

Alternative E - Vegetation Treatments

- Thinning with No Product Removal
- Thinning (Optional Mastication) No Product Removal
- Thinning with Optional Miscellaneous Wood Product Removal
- Thinning with Product Removal
- Mixed Treatment with Product Removal

Alternative E - Harvest System

- Helicopter
- Helicopter (Bunch)
- Light Cable
- Tractor/Jammer
- Tractor

Landings - Alternatives E & F

- Helicopter
- Tractor
- Service

Alternative E - Road Construction Associated with Vegetation Treatment

- Add to System (ML2)
- NFS Road 393 Realignment (ML2)
- Reconst_ML1 to 2
- Temporary Road Construction

Existing Plantations

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

Yurts

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

Streams - Perennial

Roads - Outside Project Area

Private

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/1/15
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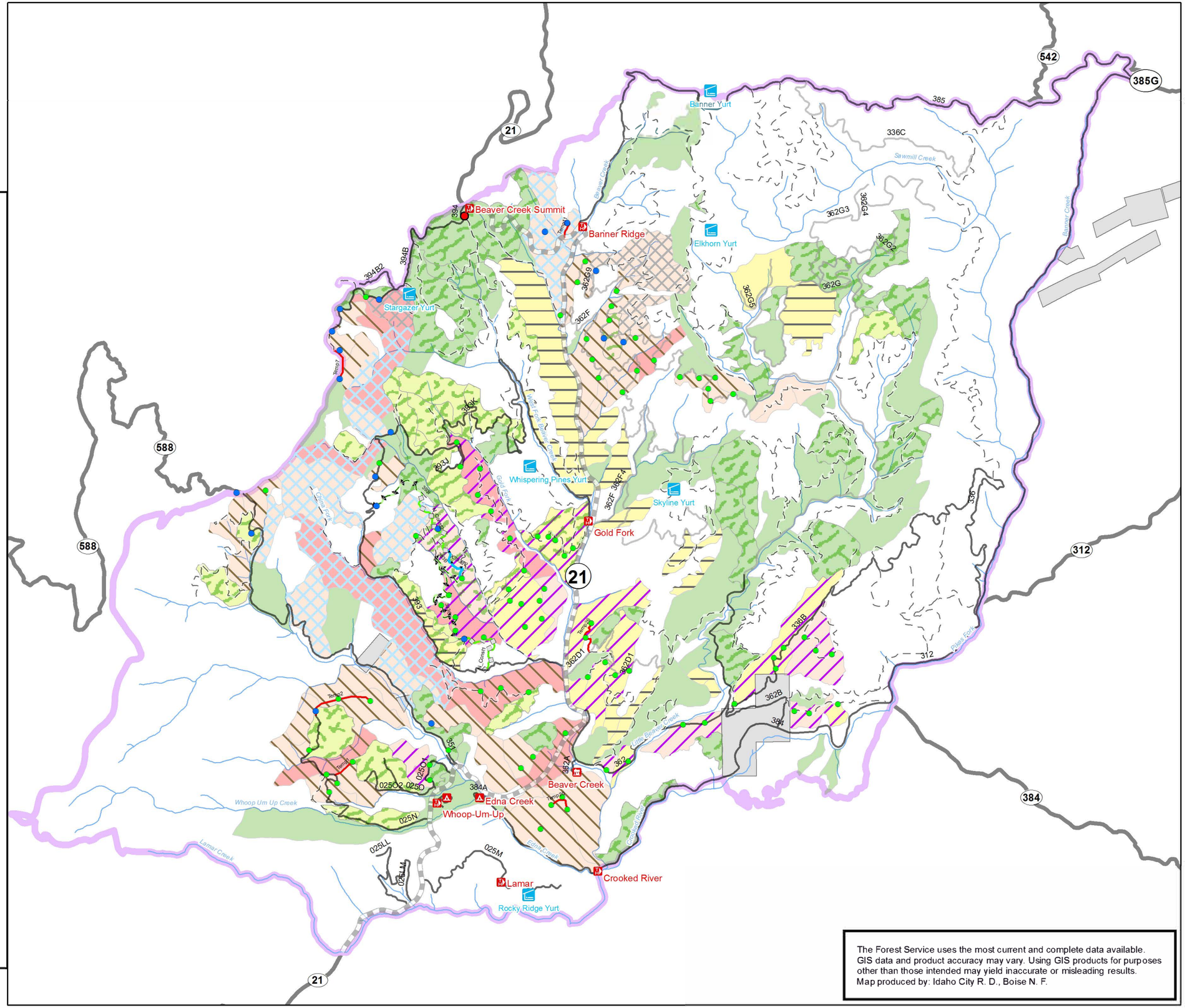


The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those intended may yield inaccurate or misleading results.
Map produced by: Idaho City R. D., Boise N. F.

Becker Integrated Resource Project - Map 23

Fuels - Alternative E

Legend

- **Project Boundary**
- **Natural Fuels - Direct Application of**
- **Natural Fuels - Indirect Application of**
- **Application of Broadcast Burn Treatment**

Activity Fuels Treatments

- Lop & scatter
- Handpile and Lop & scatter
- Handpile concentrations
- Handpile concentrations and Lop & scatter
- Chip or Lop & scatter
- Yard Handpile concentrations
- Yard Handpile concentrations and Lop & scatter
- Whole Tree Yard and Lop & scatter
- Whole Tree Yard and Handpile concentrations

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

Yurts

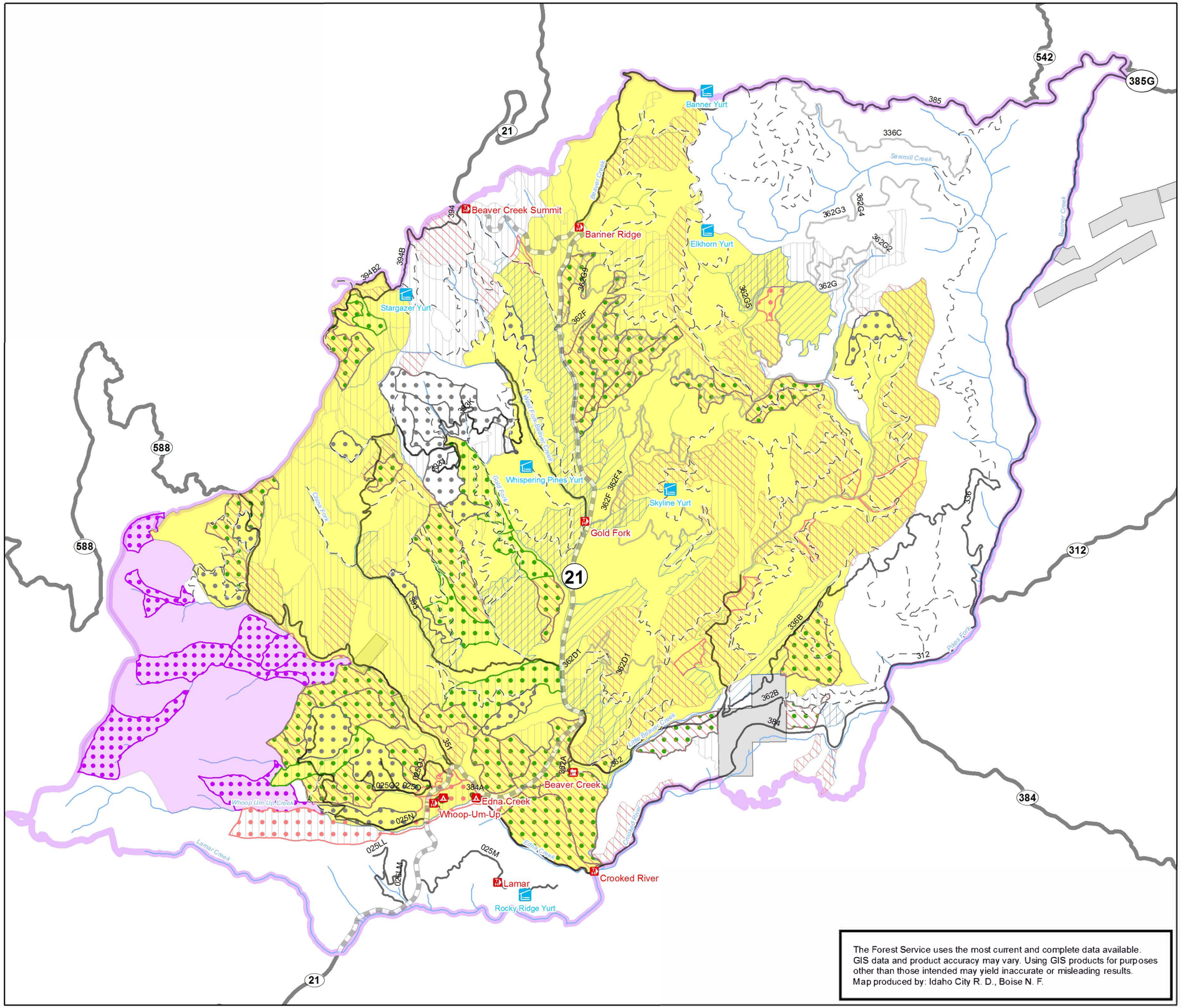
Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

Streams - Perennial

Roads - Outside Project Area

Private



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 24

Transportation - Alternative E

Legend

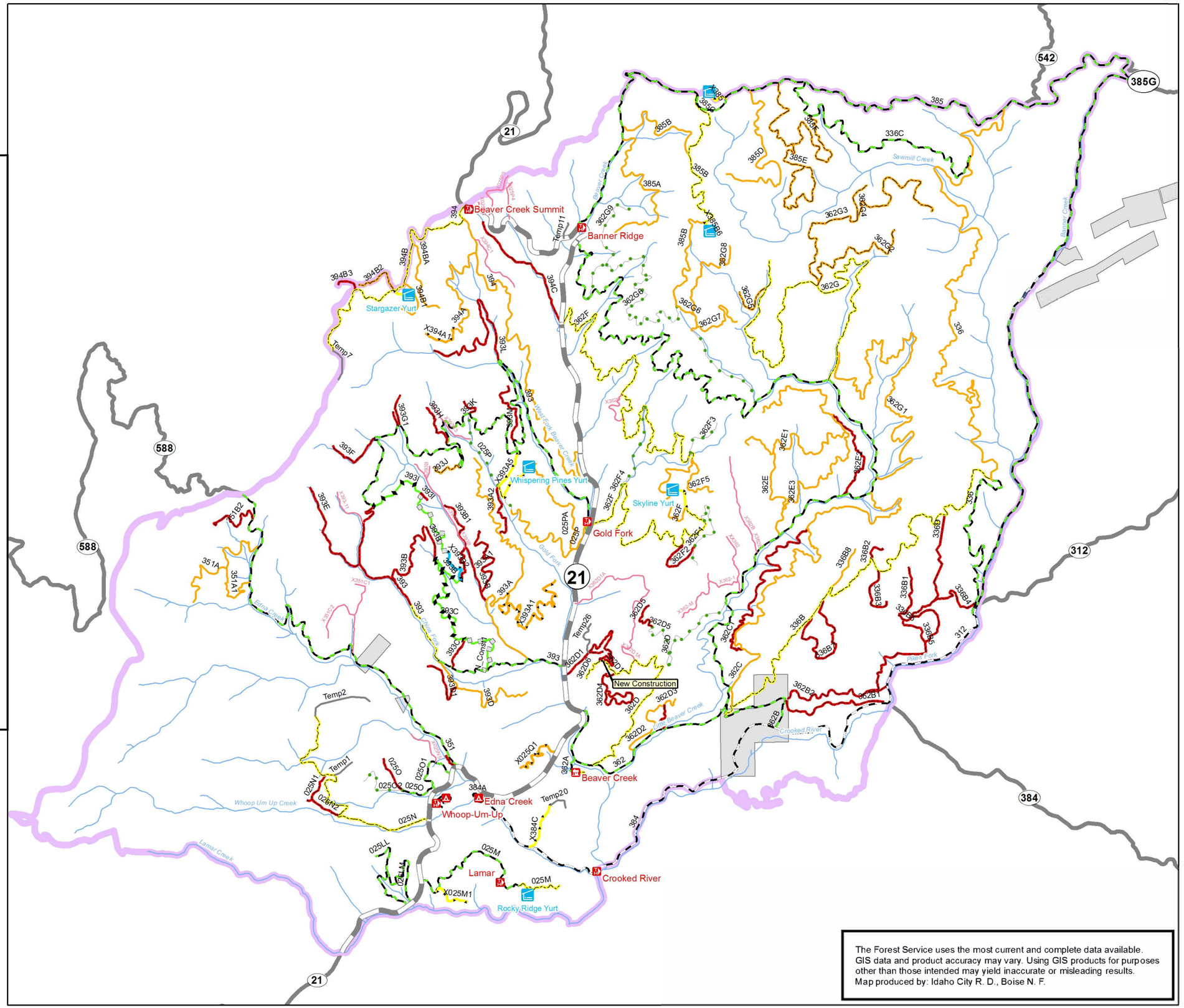
Project Boundary

Alternative E - Transportation Treatments

- Decommission
- Closed to All Motorized Access (ML2 to ML1)
- Closed to Public Motorized Access (ML2 Admin)
- Add to System - Closed to All Motorized Access (ML1)
- Add to System - (ML2)
- Add to System - Closed to Public Motorized Access (ML2 Admin)
- New Construction (ML2)
- New Construction - Closed to Public Motorized Access (ML2 Admin)
- Reconstruction (ML1 to ML2)
- Temporary Road Construction
- Convert to Non-motorized Trail
- No Change - ML 1 - Closed to All Motorized
- No Change - ML 2 - High Clearance Vehicles
- No Change - ML 3 - Suitable for Passenger Cars
- Highway 21
- **Unauthorized Routes - Decommission**
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/1/15

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Map produced by: Idaho City R. D., Boise N. F.

Becker Integrated Resource Project - Map 25

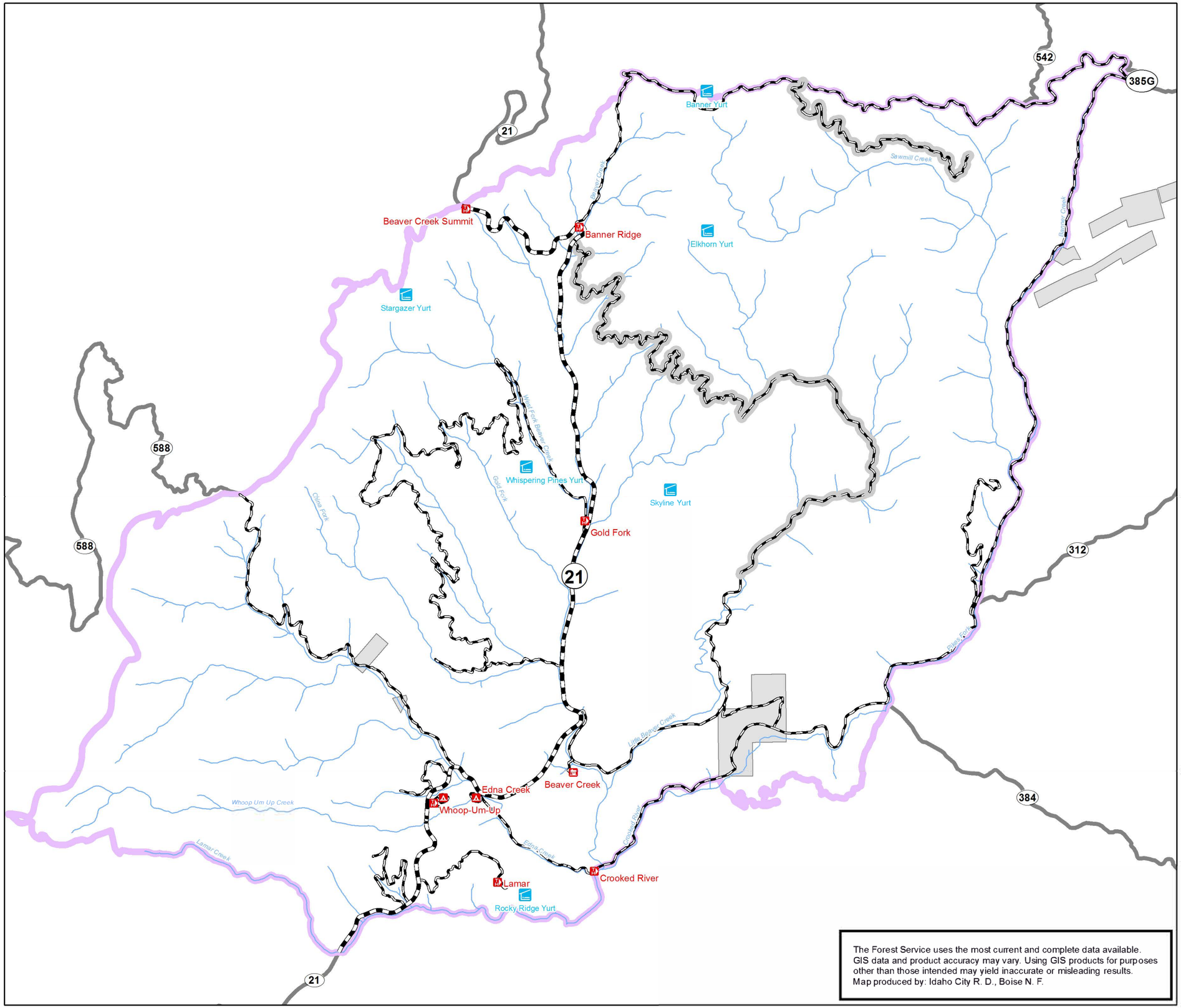
Transportation - MVUM Alternative E

Legend

- **Project Boundary**
- **Alternative E - MVUM**
- Roads Open to All Vehicles,
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

DES

dbrown - 4/1/15

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Becker Integrated Resource Project - Map 26

Recreation - Summer

Alternative E

Legend

- **Project Boundary**

Authorization of Non-motorized Routes

- Non-motorized Trail on Closed NFS Roads
- Non-motorized Trail on unauthorized route

Label
999

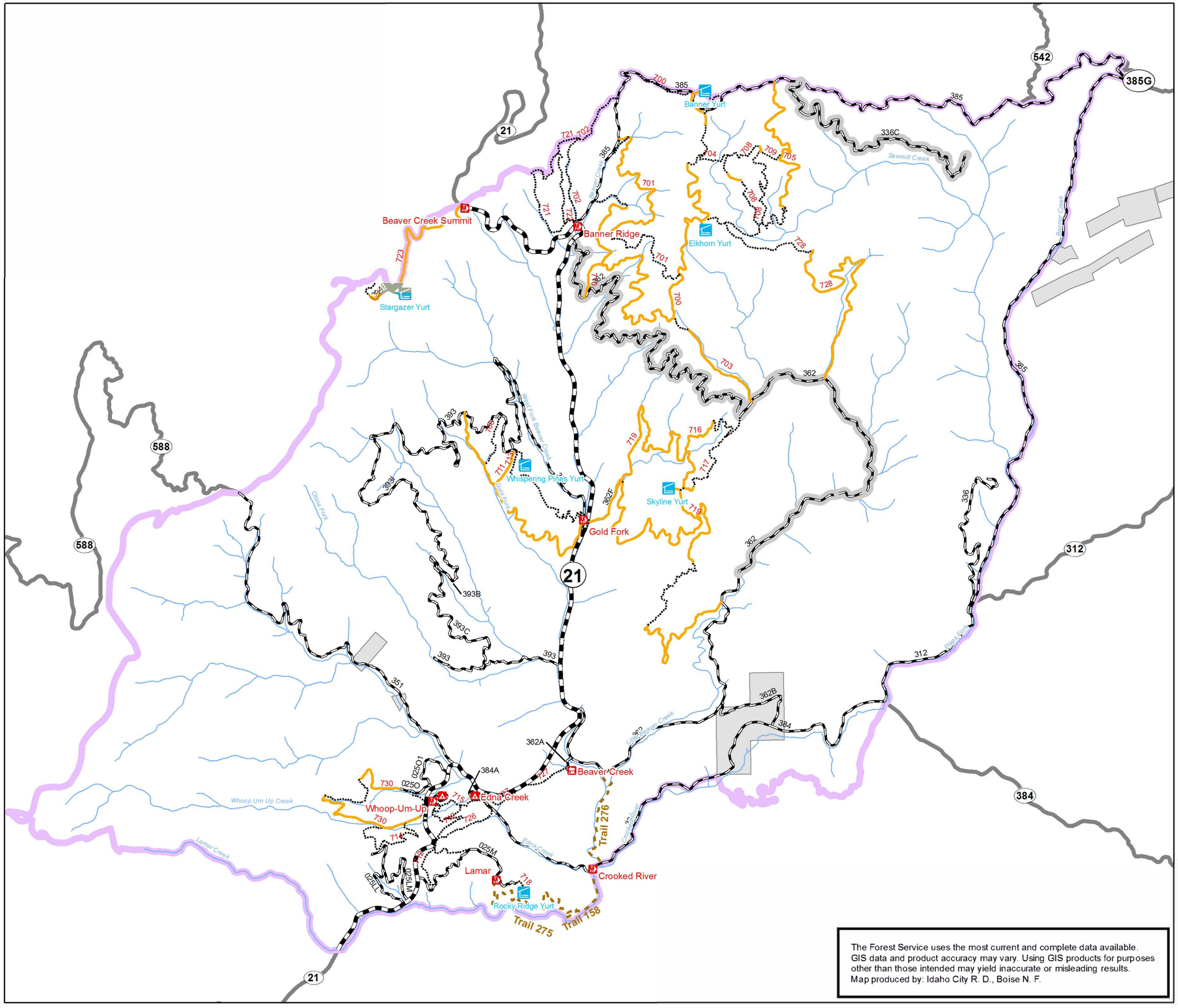
Alternative E - MVUM

- Roads Open to All Vehicles, Yearlong
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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Map produced by: Idaho City R. D., Boise N. F.

N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/28/15
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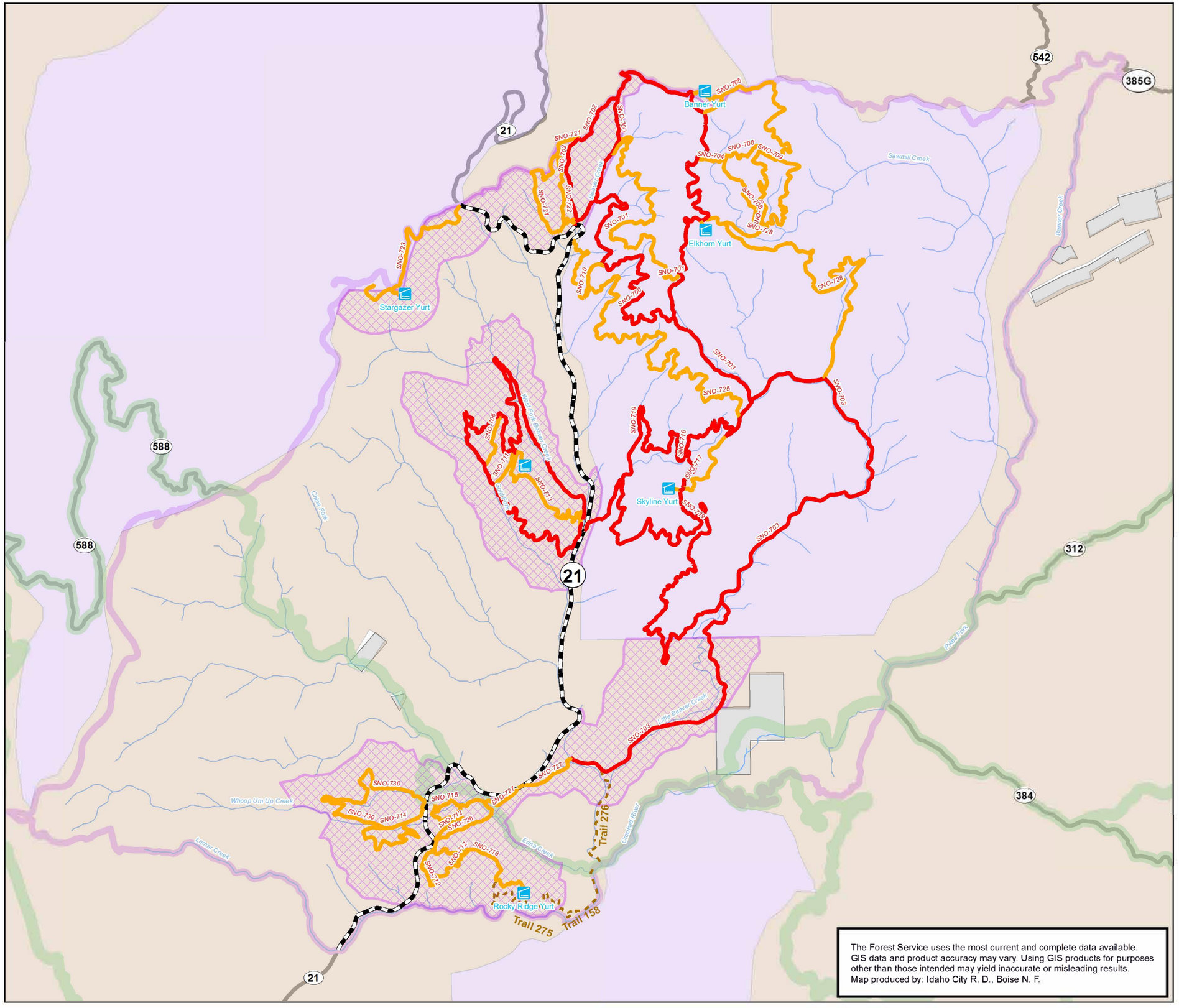
Becker Integrated Resource Project - Map 27

Recreation - Winter

Alternative E

Legend

- **Project Boundary**
- **Winter Non-Motorized Trails**
  - Groomed
  - Un-groomed
- **Motorized Winter Closure - Alternative C, E, F**
- **Travel Management - Winter**
  - Motorized
  - Non-motorized
- **2013 Groomed Snowmobile Trail**
- Highway 21
- **Yurts**
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 28

Vegetation Treatment/Harvest System - Alternative F

Legend

Project Boundary

Alternative F - Vegetation Treatments

- Thinning with No Product Removal
- Thinning (Optional Mastication) No Product Removal
- Thinning with Optional Miscellaneous Wood Product Removal
- Thinning with Product Removal
- Mixed Treatment with Product Removal

Alternative F - Harvest System

- Helicopter
- Light Cable
- Tractor/Jammer
- Tractor

Landings - Alternatives E & F

- Helicopter
- Tractor
- Service

Alternative F - Road Construction Associated with Vegetation Treatment

- Add to System (ML2)
- NFS Road 393 Realignment (ML2)
- Reconst_ML1 to 2
- Temporary Road Construction

Existing Plantations

Road (.Existing)

- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

Yurts

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

Streams - Perennial

Roads - Outside Project Area

Private

N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/1/15
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Becker Integrated Resource Project - Map 29

Fuels - Alternative F

Legend

- **Project Boundary**
- **Natural Fuels - Direct Application of Fire**
- **Natural Fuels - Indirect Application of Fire**
- **Application of Broadcast Burn Treatment**

Activity Fuels Treatments

- Lop & scatter
- Handpile and Lop & scatter
- Handpile concentrations
- Handpile concentrations and Lop & scatter
- Chip or Lop & scatter
- Yard Handpile concentrations
- Yard Handpile concentrations and Lop & scatter
- Whole Tree Yard and Lop & scatter
- Whole Tree Yard and Handpile concentrations

Road (.Existing)

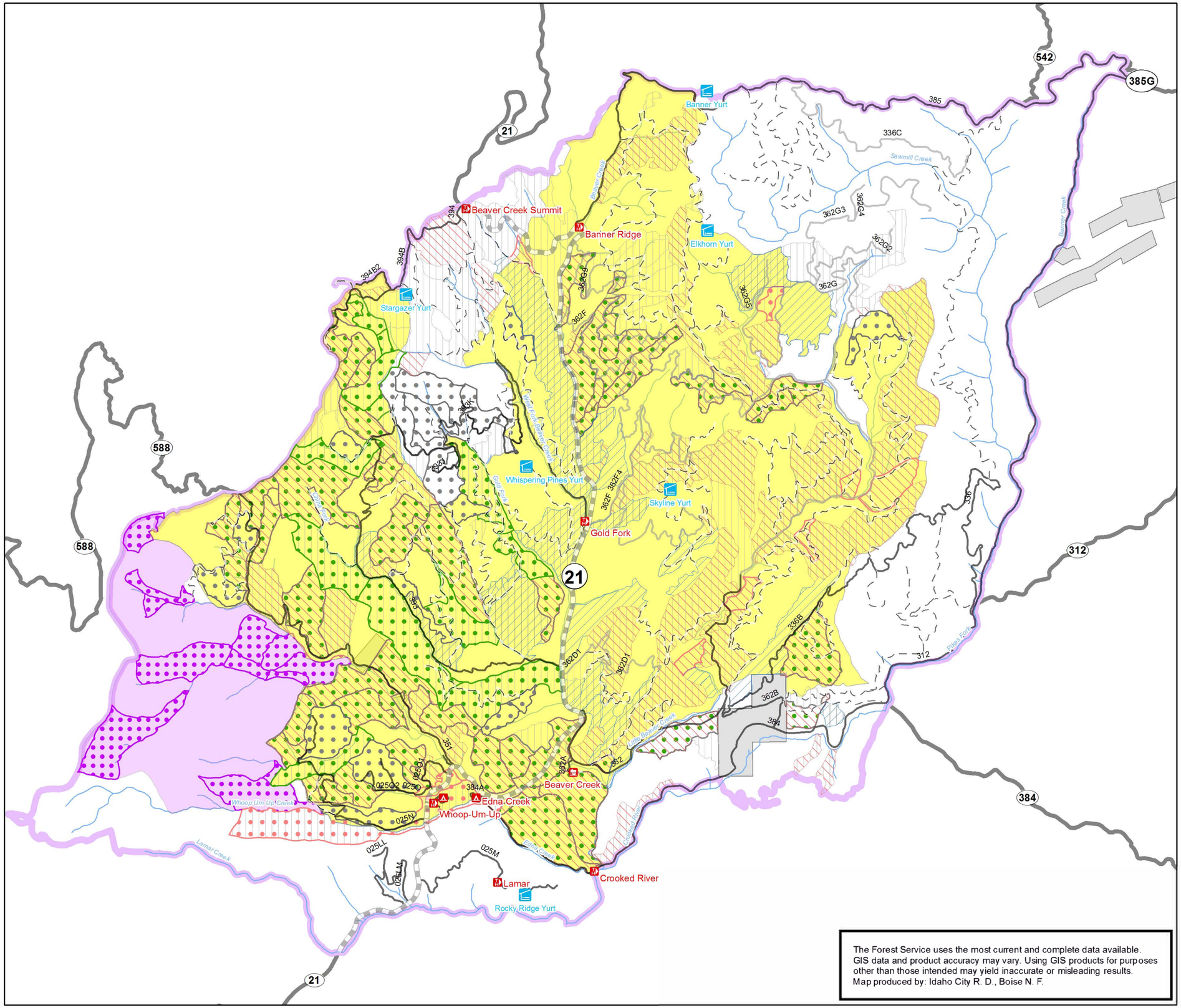
- Highway 21
- Open NFS Roads
- NFS Roads Seasonally Closed to Public Motorized Use (Open 6/16 - 9/14)
- NFS Roads Closed to Motorized Access

- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead

- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those intended may yield inaccurate or misleading results. Map produced by: Idaho City R. D., Boise N. F.

N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/1/15
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Becker Integrated Resource Project - Map 30

Transportation - Alternative F

Legend

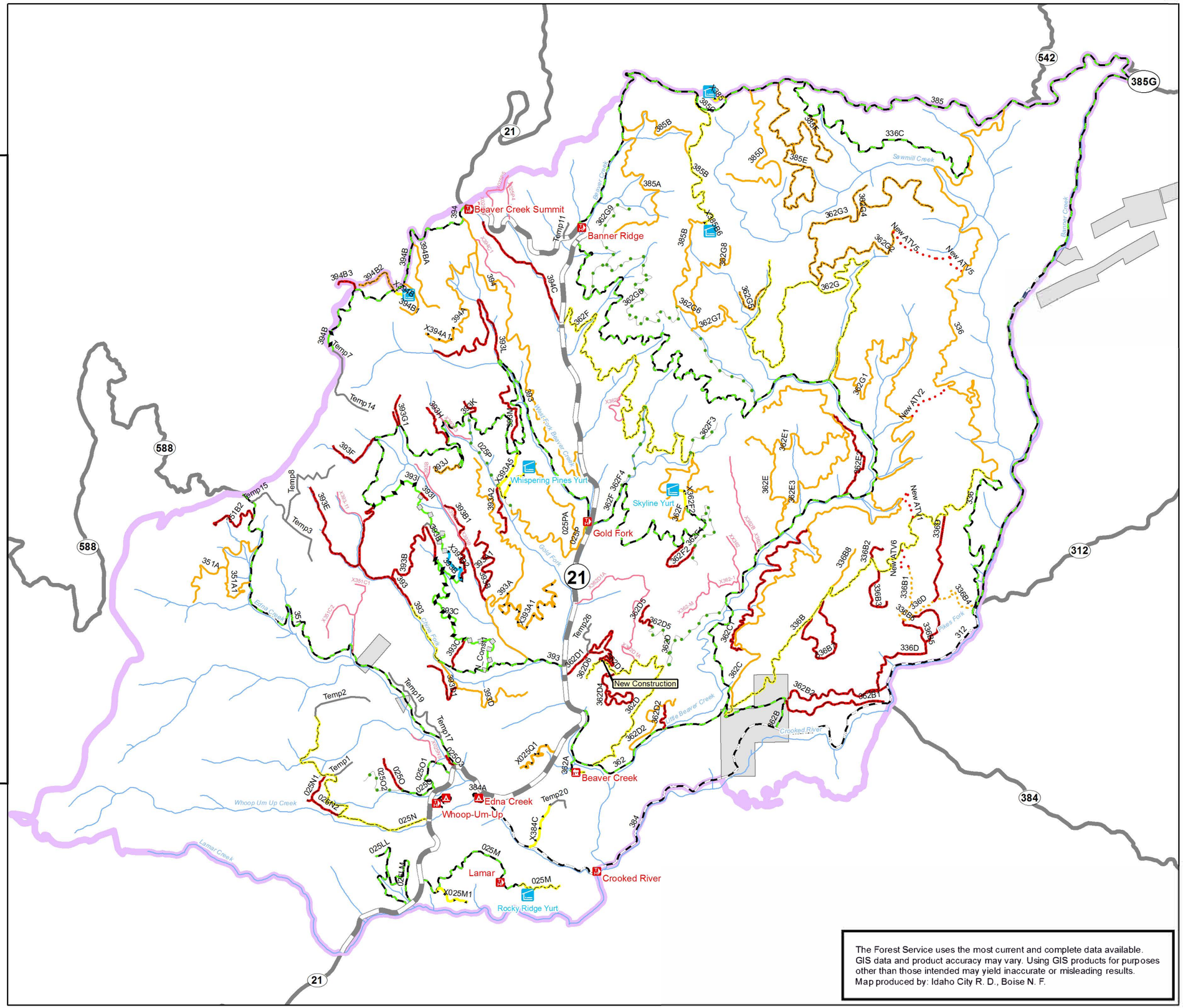
Project Boundary

Alternative F - Transportation Treatments

- Decommission
- Closed to All Motorized Access (ML2 to ML1)
- Closed to Public Motorized Access (ML2 Admin)
- Add to System - Closed to All Motorized Access (ML1)
- Add to System - (ML2)
- Add to System - Closed to Public Motorized Access (ML2 Admin)
- New Construction (ML2)
- New Construction - Closed to Public Motorized Access (ML2 Admin)
- Reconstruction (ML1 to ML2)
- Convert ML1 to Motorized Trail for Vehicles 50" or less
- Temporary Road Construction
- Motorized Trail Construction for Vehicles 50" or less; ATV_NewConstruction-Visible Prism
- Convert to Non-motorized Trail
- No Change - ML 1 - Closed to All Motorized
- No Change - ML 2 - High Clearance Vehicles
- No Change - ML 3 - Suitable for Passenger Cars
- Highway 21
- **Unauthorized Routes - Decommission**
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

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Becker Integrated Resource Project - Map 31

Transportation - MVUM Alternative F

Legend

- **Project Boundary**

Alternative F - Motorized Trail

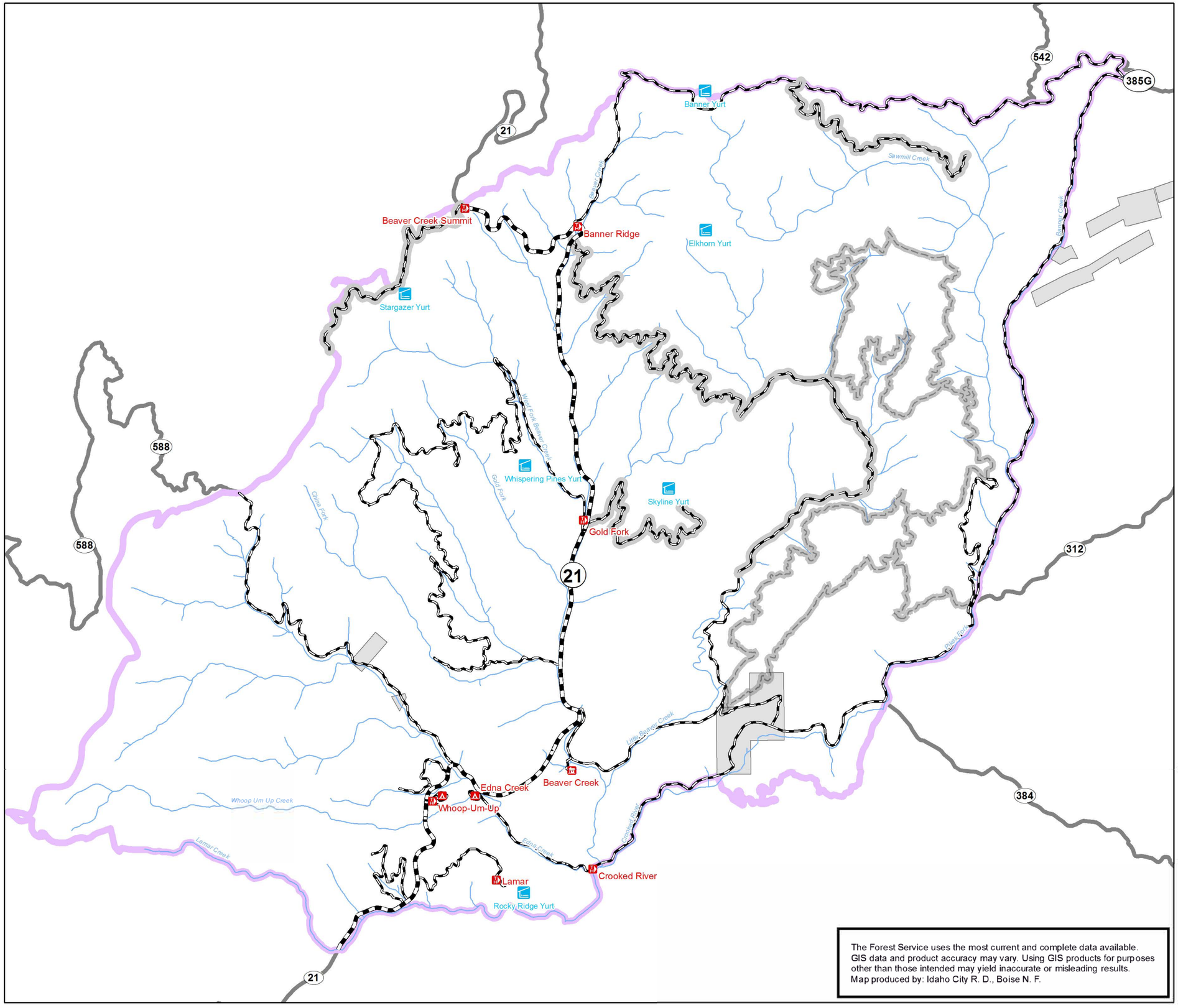
- Trails Open to Vehicles 60" or Less in Width, Seasonal

Alternative F - MVUM

- Roads Open to All Vehicles,
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 4/1/15
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Becker Integrated Resource Project - Map 32

Recreation - Summer

Alternative F

Legend

- **Project Boundary**
- **Motor Vehicle Trailhead - Alt. B, C, D & F**

Authorization of Non-motorized Routes (Label 999)

- Non-motorized Trail on Closed NFS Roads
- Non-motorized Trail on unauthorized route

Alternative F - Designation of Motorized Trails (Label 999)

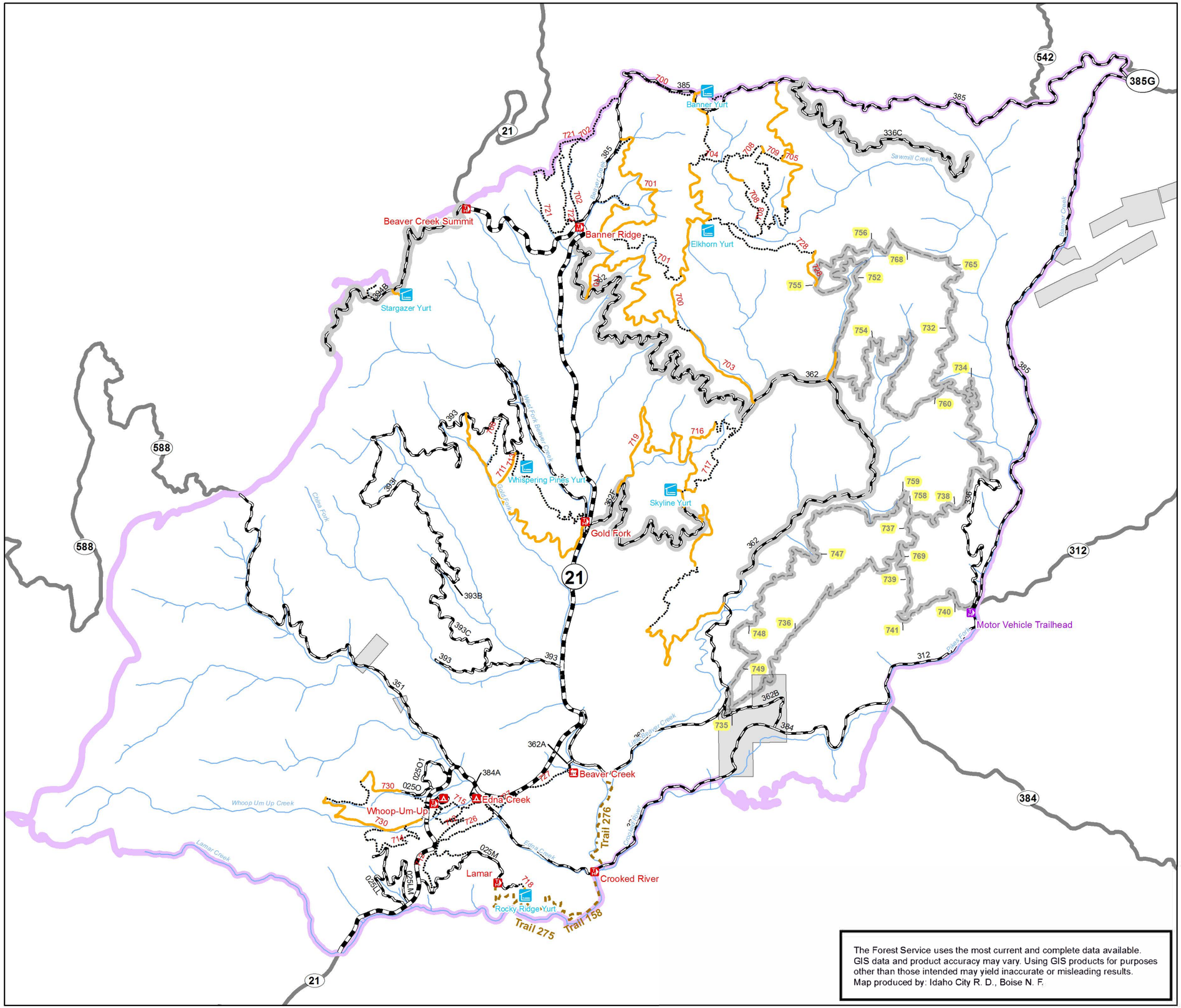
- Trails Open to Veh. 60" or Less in Width, Seasonal

Alternative F - MVUM

- Roads Open to All Vehicles, Yearlong
- Roads Open to All Vehicles, Seasonal 06/16-09/14
- Highway 21
- **Yurts**

Recreation Sites

- Campground
- Lookout/Cabin
- Trailhead
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



N

0 0.25 0.5 1 1.5 2 Miles

dbrown - 6/29/15
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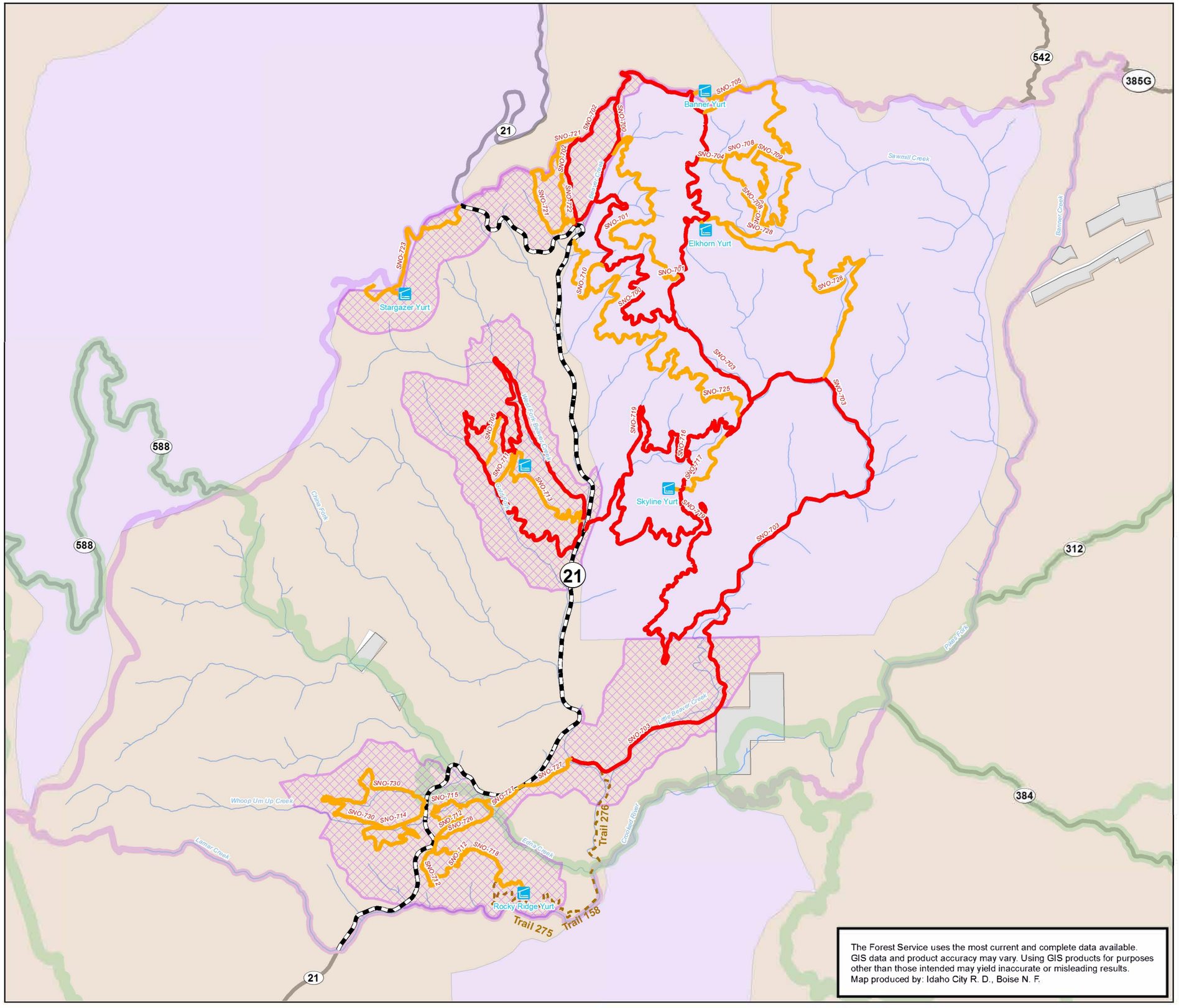
Becker Integrated Resource Project - Map 33

Recreation - Winter

Alternative F

Legend

- **Project Boundary**
- **Winter Non-Motorized Trails**
  - Groomed
  - Un-groomed
- **Motorized Winter Closure - Alternative C, E, F**
- **Travel Management - Winter**
  - Motorized
  - Non-motorized
- **2013 Groomed Snowmobile Trail**
- Highway 21
- **Yurts**
- **Existing Non-motorized Trail**
- **Streams - Perennial**
- **Roads - Outside Project Area**
- **Private**



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0 0.25 0.5 1 1.5 2 Miles

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